Significant Bits

Journal of Brisbug PC User Group inc

Vol 9 No 6
May 1994
$4.00

Next meeting **Sunday, 15th May**

Main Event **Microsoft Access Ver 2** *1:30pm*

Lunchtime Special **Lotus Products** *12 noon*

May's Prize Draw in Membership Drive

1:15pm in the Main Theatre

Inside

Tape Drives - a major review

REXX Tutorial - Part 1

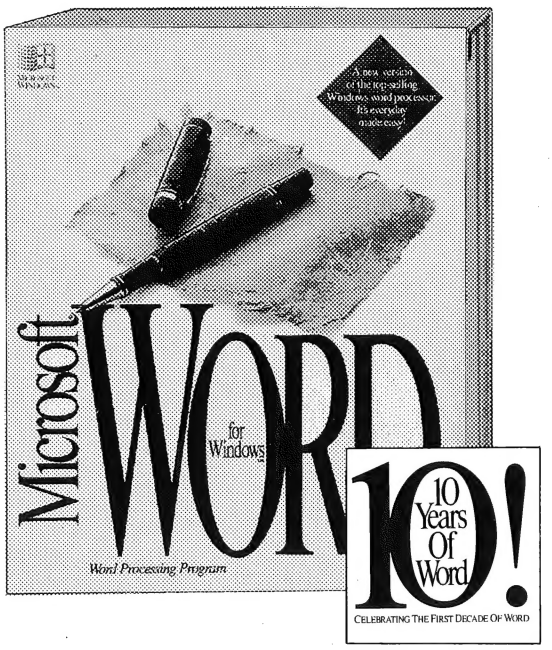
Windows watch

Lindsay's letter

All the news from SIGs, Classes, and Associated Clubs

From many parts - one club

Microsoft Windows. There's only one Word for it.



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Contents

Significant Bits - Journal of Brisbug PC User Group Inc Vol 9 No 6 May 1994

Features

Club News

Articles

Regular Features

MEMBERSHIP FORM PAGE 29

Coming Meetings

19th June
17th July
18th August

New Help Listing Page 60

Program for Sunday, 15th May

9 am/ 10:30 am	CLASSES
9:30	Junior Club
12 noon	Lotus Corp
12:15	New Members Orientation
1 pm	Brisbug Club Meeting
1:30 pm	Microsoft Access V2
3 pm	New Members' Tech Chat
	SIGS

Brisbug recognises the generosity of our regular supporters:

Microsoft Corp **Compaq**
Electroboard **Borland International**
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Ron Lewis Computers **Data Cabling**
Ramware **Accord Computer Eng**
Avcom Services **Lindsay & Nettie Bates**

and the sterling job done by Marlin Printers of Caloundra.

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SOFTWARE LIBRARY SERVICE AND SHOP

Post Prepaid requests to:
Brisbug Software Library,
95 South Station Road,
Booval 4304
or phone: (07)281-6503
MONDAY-FRIDAY, 9am to 1 and 2 to 4pm ONLY!!

HELP LINES

Brisbug operates a system of help lines for members only. The telephone numbers for each topic are listed at the back of this magazine

From the Engine Room

Lloyd Smith

Censorship comes to Computers

From April 12th a new law come into force relating to Classification for Computer Games. From that date no new computer game may be sold without receiving a rating.

The classifications are: G - Suitable for all ages G8+ - Suitable for children 8 years and over M15+ - Suitable for persons 15 years and over MA15+ - Restricted to persons 15 years and over R18+ - Restricted to persons 18 years and over X18+ Restricted to persons 18 years and over

The disclosed reason, according to a newspaper report, is to take into account violence, exploitation and sexually-explicit material and is intended to restrict the sale of such games to children.

The sales of computer games have mushroomed beyond all expectations over the last few years. Programmers have vied with each other to produce more and better games. Technology has assisted with this challenge. The ability to use images of human actors in what was previously a cartoon style medium has changed the way programmers can design their works. A new form of computing has entered the program. By manipulating the stored images, the programmer can inflict any form of violence or sexual depravity that their over-fertile imagination can conceive.

Protecting children from this type of violence is the responsibility of the parent. Too often parents fail to exercise control over what their children do and see. The TV is a classic "baby-sitter" and now the computer has superseded the TV with the ability to provide interaction with what the child sees by manipulation of the character involved. In order to retain a semblance of sanity in the home both the TV and computer are constantly being used as a stop gap for parental supervision.

The new classification laws relating to computer games are designed to give parents an indication as to the type of game with which their offspring are being entertained. As with any form of censorship, it is only a guide, and the responsibility still lies with the parent.

Setting aside my personal viewpoint on this matter, I, as both President and Librarian of Brisbug, acknowledge that classification of computer games at this time is essential to provide information to parents as to what type of game their children are playing. My only reservation is that because the programs we have in our library are shareware, classification of shareware programs will be the lowest priority of the censors, and as a result we will probably see the supply of shareware games gradually disappear from our library. (It should be noted that games available from the BBS are not subject to classification.)

Membership Drive

Last months meeting saw the start of our membership drive. Already over 90 new members have joined Brisbug as a result of the drive. This month, at the meeting there will be the first draw for prizes offered in the intermediate draw.

The possibility of winning some of the terrific prizes each month and the 486 Laptop computer from Compaq or the fabulous software from Microsoft at the end of the membership drive has encouraged many members to seek out new members.

Continued on Page 10

From the Assistant Stoker

Graeme Darroch

The OT and BC Show

Well this months assistant stoker column will start with a thank-you to all the people who on very short noticed pitched in to lend a hand at the Office Technology and Business Computer show in April.

It all started with a phone call on the preceding Friday, a hurried executive decision, then off we went. It added up to thirty odd members being joined up at the show and many more people joing at the next meeting.

A great effort by everyone, has resulted in many more peole being made aware of Brisbug, and Brisbug being given the oportunity to meet the meeds of more PC users.

The successful COMMS class

The Comms class which started at the last meeting was an overwhelming success. I was amazed at how many people turned up to be given an introduction to Comms, I only hope that we can continue with the interest for the next class. I am intending that this class will be a recurring event, lasting three months. A two month break then off on the three month cycle once again. That way new users who have joined since the last class will be able to find out about comms soon after they join.

That mail-out

Several people called me during the last month to ask about a circular that was sent to them by a computer software company advertising programs. The thing that seemed to be upsetting them was the fact that the envelopes seemd to have Brisbug labels on them. Well the labels *were* Brisbug labels.

If this sort of mail offends the only advice I can offer is to throw it in the bin.

The committee was offered a very good sum for two sets of mailing labels, a vote was taken, and passed by a majority of the committee, so the labels were sold to the company. A condition was made that a legal undertaking be sought, (and was received), that these labels would not be reproduced. This sale was not a precedent and if the offer ever comes again it will be decided on its merits at the time.

The few people who called, although they did not say so, seemed to be implying that they were not happy with the fact that this had happened. I can't see how this has any detrimental effect on the club, the offer that was being made was very good value for money, and as a club, I feel it is in our members interests to be informed of the best value around, and this is one way of doing this. As I say if the members are not interested in the offer, the course is clear.

The committee has been careful to guard the list of names of club members in the past, and will do so in the future, but when an opporunity exists, which will be to the benefit of all, then it will be put to the vote, on a case by case basis. If this upsets some of our members then that fact should be remembered when the next committee is elected and the appropriate action taken.

Look forward to seeing you next meeting.

MAGAZINE

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Contributions always welcome! Disks, artwork or copy to: LLoyd Smith, 95 Station Rd, BOOVAL

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ADVERTISING

The rates, sizes and other information needed by advertisers is set out below. Significant Bits will take color or black and white ads. Position must be requested. Advertiser printed inserts can also be arranged.

DEADLINES

Normal deadlines are the third Friday of the month preceding publication. Space reservation deadline: 3rd Friday of month preceding publication.

Replacement artwork deadline the last Friday of that month. Artwork must accompany space booking. If booked by phone or FAX, booking becomes effective only when artwork is received. The magazine is usally printed the second week of the month of publication, so that changes to copy must be in the preceding week.

TERMS

Payment must accompany bookings unless an account has been established. Discounts are offered for multiple insertions when advance payment is made.

Members may advertise at half rate, but member payment must accompany ads (Classified ads not exceeding three lines are run free of charge. More than three lines attract attract a minimum charge of $5.)

FORMAT

The magazine is A4 size, offset printed and saddle stitched. More than 2300 copies are printed of each issue and distributed throughout Australia and overseas. Artwork should be full size, paper bromide, film (right-reading emulsion down) or laser print. Postscript print or EPS files can be accepted by arrangement via modem. Brisbug does not typeset ads other than classifieds.

Text only ads 1/6 or 1/12 page can be FAXED. The layout for these must be at the editor's discretion and are accepted without proofs. All sizes are given as height x width in mm. Artwork must not exceed stated sizes.

Minutes — Meeting on 17th April

Neil Krause — Secretary

There was an encouragingly large crowd of 250 present when President Lloyd Smith opened the meeting at 1.05 pm

The membership drive

Obviously the big news was the launch of our membership drive and the President explained that we all hope to increase membership of the club by a massive 1,000 members. The first prizes will be awarded at the April meeting.

At the General Meeting on 16th October, 1994, all the names of members who have introduced new members will be placed in the draw for the Compaq 486 Laptop Computer and the Microsoft software.

The following month at the General Meeting on 20th November, the names of all the new members who have been introduced to and joined Brisbug will be placed in the draw for the BytePro 486 desk-top computer. The major prizes were on display in the registration room.

The President urged all members to participate in the membership drive. Membership forms can be found in the magazine and forms are also available from the Membership Secretary.

Shows and Expos

Once again, our worthy band of Brisbug volunteers represented the club at the Brisbane Computer Show. The President explained that he received the offer to have a stand at this show at the RNA on Thursday, Friday and Saturday at no charge to the club. He expressed particular thanks to Graeme and his son, Glen, for setting up the stand.

The President confirmed that the club would not be putting a display in PC94 next month because the management committee considered cost of space far too high. He reported that consideration was being given to participating in the Queensland Pet and Hobby Expo.

The Rewards Scheme

President reminded members present that the rewards scheme had commenced last year and they were encouraged to nominate members they feel should be rewarded. Lloyd said that nominations can be placed in the suggestion box or posted to himself. He pointed out that these must be in writing and, when received, would be referred to the Rewards Committee for consideration. Successful nominees are then invited to choose from a selection of software.

The President said that Graeme would present last month's reward to Mark Hayes. Mark had selected a Microsoft Office upgrade.

Our 4,000th member

The President presented our 4,000th member, Terry Jordan, with a gift to mark the occasion.

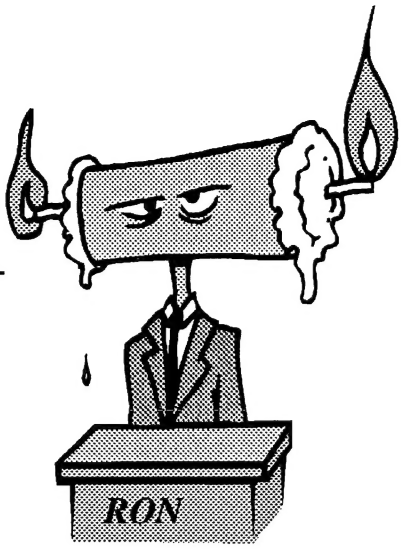
Education

President brought members' attention to the changes in class times. The club had been pleasantly embarrassed by the large number of people who turned up for Graeme's communication class. In fact 160 members attended this class.

Education Officer Mark Mullins was initiating more changes to classes and class times over the next few months so that a wide range of educational activities would be available for members. He said that Introduction to

Continued on page 12

Editorial



Ron Lewis

There is no editorial this month. I have resigned from the position of Magazine Director.

I wish my successor well, and look forward to a smooth transition of control of "Significant Bits".

I would particularly like to thank all those who have worked to make SigBits — the authors, the baggers and the advertisers.

SIG News

Dulcie Haydon

Business & Finance SIG Group: Report

Business and Finance Buffs "Cheque-It-Out"

Ian Freiberg presented "Cheque-It-Out", a shareware accounting programme, at the most recent meeting of the Business & Finance SIG on Sunday, March 20, 1994.

Ian pointed out that the name, "Cheque-It-Out" sounds Australian, but in fact the package is from the USA. Thus it contains some "quirks" which differ from Australian accounting styling. Positive features of the programme are - a user-friendly menu - on-screen bank reconciliation - a number of financial calculators - suitability to the professional type of business where fees and administrative expenses are common - a graphing facility including line, bar and pie charts - an element of education which assists non-accountants learn accounting principles - the low cost of registration, being $115 from BRISBUG at the time of writing this report.

However, in Ian's view a few negative aspects are present, too. These include - a working knowledge of debit/credit accounting principles is really useful - the lack of a report writer that can be edited - the lack of a depreciation schedule - no Debtors or Creditors integration in the programme. On this last point, Ian said that it could be handy to remember that "Cheque-It-Out" is the general ledger system of "Takin' Care of Business", which has modules for Debtors and Creditors.

The Business & Finance SIG meets in the Registration Room each monthly Sunday meeting at 3:15pm.

The SIG Group has made a very positive start to the year with two interesting and informative presentations having been made so far. Participants have a general interest in computing for business purposes. Levels of expertise range from novice to business professional.

Enquiries can be directed to the convener, Graeme Gardener on (07) 354 3237 (A/H). Better still, come along to our next meeting. It is quite free and you will be most welcome.("Cheque-It-Out" is available from BRISBUG)

"Minding Your Own Business"

The most recent meeting of the Business and Finance SIG saw a persuasive video presentation on the small business accounting package Minding Your Own Business *(MYOB). MYOB* is made in USA, and has been "Australianised" for use here.

MYOB uses the concept of "command centres" to make data entry and subsequent interpretation easier.In addition to accounting functions, MYOB includes the ability to display information graphically. Thus,income and expenditure can be shown as pie charts for example. A handy graphics feature is a ability to draw. This feature is used in designing forms such as invoices and statements.

Minding Your Own business is distributed by Data-Tech and sells for about $495. It is suitable for small to medium sized business and also professional people. Minimum system requirements claimed are Windows, mouse, 80286 or better and 2Mbytes of memory.

A May Vision of the future?

Business & Finance SIG members expect to glimpse a "vision" of the future at the coming meeting in May.

A representative of SYBIZ will talk on their accounting product range which includes *VISION*, a new fully integrated accounting solution for Windows.When released, *VISION* is expected to offer genuine Windows ease of use coupled with extensive report-writing capabilities. Vision files can be directly read by Lotus 1-2-3, Excel, Symphony and other programmes. *VISION* was developed using Foxpro, reputed to be one of the world's fastest Windows databases. Vision is suitable for use in the medium to larger business. It can be used by multi-users on Windows for Workgroups, Windows NT, Novell and Lantastic networks.The purchaser chooses the *VISION* modules required for his/her own requirements.Modules cover all aspects of sales, purchasing, stock control and accounting. Future modules are likely to cover such tasks as payroll and job costing.

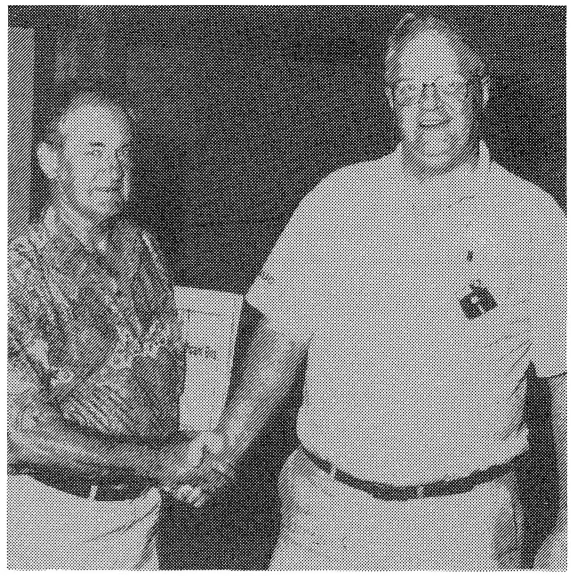
Business and Finance SIG members who attend expect to assess this new product and address any questions directly to SYBIZ Software.

SouthSide SIG

Meets on Monday, 24th May at 7:30pm at Rex Ramsey's home, at 114 Forestdale Dr, Forestdale. Agenda: General discussion, problem solving, (bring your own). Contact: Rex Ramsey 8004827

Business & Finance SIG meets about 3:15 in registration room Alan Weeks 870 8183

April's meeting



Member number 4000, Terry Jordan, receives a momento from the President

Interlink showed off their range of modems in the Lunchtime Special

WordPerfect Corp's Wendy Bell presents one lucky member with a copy of WordPerfect SIX.0 for Windows

EDUCACHEON News

Mark Mullins — Education Director

classes... note the start times

At 9.00 am Graeme Darroch will be giving a talk on introductory communications

OS/2 starts 9:00

We really got off to a flying start at the April meeting. As I drove up towards the QUT Campus I noticed the City Council's slightly frantic attempts to shut off a burst water main. Not a drop of water on the Campus ! Then as we rushed to get set up for Graeme's class on Introductory Communications in Room 310 we found the doors to all classrooms were locked. So I rushed off to find the security guard. I finally located him and as he triumphantly opened the door to the first room the key snapped in the lock ! Excellent ! Of course there were no duplicate keys on the premises which meant that Les Cathcart and the Junior Group were locked out.

I thought that perhaps that was enough bad luck for the day, however I was soon to discover that bad things happen in threes. Graeme and I finally lumber all his gear in to the classroom for the presentation just in time for the 9.00 am start. The room was packed at starting time and I was very happy with the turn out. It was then that I turned around to see a swarm of eager potential communications experts thundering down the corridor. It was soon bleeding obvious that the inn was full. Lloyd Smith in true Presidential fashion issued an edict that all should relocate to the theatre. My thanks to all attendees who took it in good spirit and wandered off to the theatre without complaint. Graeme Darroch lost about five kilograms in body weight shifting the gear all over the shop but I'm sure you will agree recovered to give a fine presentation. **Introductory Communications "The sequel" will be held in the theatre at 9.00 am at the May Brisbug meeting.**

I counted over 100 people at that lecture and I can only assume that we are moving in the correct direction in terms of what members want in the way of education.

Introductory spreadsheets was well attended; however the 15 inch monitor was not up to the task. I will try to somehow improve on that particular feature at the next showing and also provide some basic notes, if time permits which will be sold at cost to those interested, so no need to bring your Visa card.

Some members commented to me that it would be good to demonstrate a hook up to the Brisbug BBS so that they could see exactly how it's done. We would love to do this; however we can't at this stage get access to a telephone line at QUT for many and various reasons. Yes, we know about mobile phones but I'm told it's not that simple. A suggestion was made that we buy a 200 metre phone extension lead from Dicky Smith's but would Telecom mind us hooking it up to the phone booth out the front ?

For those who attend Paul Marwick's lectures on that other operating system **please note that the OS/2 class will commence at 9.00 am.** This is the last OS/2 lecture in the cycle and the classes will commence from scratch in about three or so months time.

Good news on the C++ horizon. Classes in same will commence on the Sunday, one week after the May Brisbug meeting. To be perfectly clear that is **Sunday 22 May 1994** and it will be held at Glenn Collin's house at 41 Watcombe Street, Wavell Heights. **It will commence at 9.00 am.** Glenn can be contacted on (07) 266 4266 (answering machine so don't hang up on the poor bloke !) You must bring a cut lunch, a folding chair, 2 floppy disks (3.5" or 5.25", high density please) and most importantly your course receipt from the previous C class or the C class manual otherwise you will be forced to cough up $40.00. Doesn't the phrase 'cough up' stir up some nasty images ? There endeth my comments on Australian colloquialisms for this month. The weary programmers and no doubt a weary Geoff Baker (Chief C++ personage and lecturer) will cease proceedings at 4.00 pm. Whilst on the subject my thanks to Geoff for the astounding amount of work he has put into the C++ manual.

That's about it so far as news goes for this month. **Please carefully read the class times. The class that you are interested in may well commence at a different time !**

I received a couple of letters this month and I have listed their contents and suitably researched replies below. Keep them coming !!Post to P.O. Box 100, Rochedale South 4123.

Q & A

Dear Mark, I have a four year old 323 and am having visual problems. I'm told the driver may be at fault. What do you think ? Mrs. D.K., Gailes.

Dear Mrs. K, The advice you received was spot

9.00am	Introductory Communications	Graeme Darroch	Theatre
	OS/2	Paul Marwick	R310
	Junior Group	Les Cathcart	R301
10.00am	BASIC Languages	Rex Ramsey	R309
	dBase	Leon Percy	R312
10.30am	Introductory Spreadsheets	Mark Mullins	R310
	Introduction to DOS	John Tacey	R315
	Hardware	Ron Lewis	Theatre
12.15	New members Orientation	Rex Ramsey	R309
3.00pm	New Users Technical Chat	Clarence Stock/ Mark Mullins	R309

CLASS TIMES HAVE CHANGED - PLEASE NOTE

on. Have your husband get new specs and drop your 323 into a Mazda dealer for a service. Mark

Dear Mark, I have recently purchased an operating system upgrade and have not been able to find much in the manual. The gentleman in the chain store from which I purchased the product said that he didn't know they even sold such a thing. Please help! Mr. K.T., Kedron

Dear Mr.T, You're dead right, there is very little about DOS in the manual that came with the upgrade. I have heard rumours about how this came to occur.

One day in the large dark shed where all O/S programmers work someone was heard to utter above the constant rumble of keyboard pressings "Why don't we just put all this stuff about O/S commands on disk instead of in a book! Gee, it would only add about 2 megabytes to the size of the directory and we could even give them the option not to have any help at all if they wanted !!". This person was immediately promoted to vice-president and now is personally in charge of the skateboard collection.

Some weeks later another long forgotten code writer suddenly sprang to his feet and yelled "Why don't we put comma's for each thousandth digit when describing free directory space!". There was complete silence and a cessation of keyboard clatter. He looked down at his monitor and saw a flashing message which said "Mail module 2,654,908 for Leroy - Do you want us to be sued by mathematicians as well as Shacker - You're sacked-End of message for Leroy". Leroy rather morosely left the converted aircraft hanger and commenced his retirement. In retrospect it was a little sad because Leroy had just come up with an idea about having file names longer than eight letters. Just as well, he would probably have been considered too radical anyway.

The funny part was that another impish programmer overheard Leroy's hysterical raving and snuck in the comma and got a promotion anyway because it meant that the O/S now had commas and a new release, 9.21A could now hit the streets at $99.00 a pop.

So in answer to your question Mr.T, simply type HELP [COMMAND] at the O/S prompt and a full help screen appears which will further confuse you. As an example for help on installing the smartdrive function type HELP SHIRTDRV and the help screen appears.

Continued from page 2

FROM THE ENGINE ROOM

Once again, the membership application form will be provided in the magazine for you to use to introduce a new member to Brisbug. You may photocopy this form as many times as you wish, or you may obtain additional forms from the Membership Secretary or from the Software Library.

Don't forget to put your name and membership number on the form before giving it to a friend to join.

Mail Outs

Contrary to the uninformed opinion of a very few members, the Brisbug Membership database is a very carefully guarded database. Even before Committee Members can be supplied with the details (and not all Committee Members can have a copy), they must sign a declaration that they will not disclose details of the database to any other person.

We are often approached by commercial organizations to provide a list of our members for purposes of mail outs of computer related information, and such requests are very carefully scrutinized by the Management Committee. Normally we prefer to have the information inserted in the magazine rather than as a separate mail out.

If such a separate mail out is required, the job of affixing the label to the envelope has in most cases been done by Brisbug members. In the event that this is impractical, a legal undertaking not to record the details of members is obtained from the organization before the mailing labels are supplied. Members can rest assured that at no time will our database be sold to any commercial organization.

Continued from page 4

Minutes of the General Meeting April 17th

Communications and Introduction to Spreadsheets would be on again at the next meeting.

Vice President, Graeme Darroch, reported that the visual basic group would meet at 3 pm to discuss the program.

Graeme reminded members that the Management BBS was getting a few calls but he invited members to log on and find their way around.

Magazine

Magazine Director Ron Lewis worked over Easter to get the magazine out. Ron asked members to get articles in by the end of the month - otherwise proofreading is limited. He urged members to contribute to their magazine.

He said that articles don't necessarily have to relate solely to computers, for example David's Genealogy article was most interesting. Ron reported that more advertising was needed.

BBS

Paul reported that lines 1 and 2 were in process of being converted to beta maximus and these lines would be out of action for 3 to 4 hours during the week.

Treasurer's report

Treasurer Max Kunzelmann presented the financial report which showed that at the end of March cash on hand amounted to $9,074.

Library report

President reported that the Courier Mail had published details of proposed classifications of computer games but the classifications seemed rather vague. Brisbug will find out what it is all about and get expert legal opinion over the next couple of months to find out the implications of the legislation.

The President then closed the meeting at 1.35 pm.

NewsBytes

Collated by Graeme Darroch

Well Here are some more NewsByte articles I hope that people find then interesting. They of course represent what I think is a reasonable cross-section of what is appearing in the Newsbytes area, of course with an Australian interest.

BSAA vs BBS

SYDNEY, AUSTRALIA, 1994 APR 15 (NB) — The Business Software Association of Australia (BSAA) members Autodesk, Microsoft, and WordPerfect have won permanent restraining orders against two bulletin board operators in Australian Federal Court. Both have agreed to pay an undisclosed sum in damages.

The defendants, Leigh Bowden and Andrew Green, agreed to surrender all diskettes containing unauthorized copies of software and have apologized for copying and allowing unauthorized copies of computer programs to be available on their BBS. Proceedings were filed against the two on January 24.

This is the third BBS to be hit by the BSAA in recent times. The group said it is using "the full force of the law" against distributors of illegally copied software. Legal counsel Maurice Gonsalves said that BBS distribution "was a particularly insidious form of piracy."

The BSAA recently announced a continuation of the $US2500 cash reward offer for information leading to successful actions for software copyright infringement. In the first two months of 1994 it gained settlements against large mining company Pasminco, the Cooperative Building Society of South Australia, and a leading business college in Sydney.

(Paul Zucker/19940415)

Electronic defamation

SYDNEY, AUSTRALIA, 1994 APR 4 (NB) — In what is claimed to be the first successful Australian defamation action over an electronic message, a man was awarded $US40,000 damages last Thursday. Judge David Ipp, sitting in the Supreme Court Of Western Australia, found that Dr David Rindos had been the subject of a damaging message placed by Gilbert Hardwick.

The story was first reported in the Sydney Morning Herald newspaper. Rindos was acting head of the department of anthropology at the University of Western Australia at the time. He was seeking to get tenure at the University.

Hardwick, meanwhile, was an anthropologist working in the Kimberley region of Western Australia — he posted a message on the DIALx science anthropology net which reaches around 23,000 users worldwide. The message included allegations that the University's anthropology department supported Aboriginal land rights against mining companies, which Newsbytes notes is the subject of an ongoing political campaign.

Judge Ipp said that he accepted that Hardwick's comments "give rise to an imputation that the plaintiff [Rindos] engaged in sexual misconduct with a `local boy.'"

"I also accept that the message contains the imputation that the plaintiff's professional career and reputation has not been based on appropriate academic research but on `his ability to berate and bully all and sundry.'" Judge Ipp said.

Judge Ipp concluded that the message seriously denigrated Rindos' academic competence and, because the message was effectively posted around the world, it was likely to be repeated and become linked-to, and reinforce any similar rumours that may circulate.

Rindos was dismissed from the University last June after a committee recommended that he be denied tenure on the grounds of insufficient productivity. Hardwick did not defend the action against himself.

(Paul Zucker/19940404)

Commodore into liquidation

SYDNEY, AUSTRALIA, 1994 MAR 11 (NB) — Commodore Business Machines (Australia), the one-time big shot of mass market personal computing, has gone into liquidation following a creditor's meeting last week. Accountant firm Ferrier-Hodgson confirmed the company was put into liquidation last Friday.

Hodgson's Max Donnely was called in last month to act as administrator when it became insolvent after Westpac Bank indicated it would not roll over CBM's bills. The total debt is believed to be around AUS$3M (US$2M) with a similar amount owed to Commodore International.

In mid-February Commodore Australia was put up for sale although the Australian distribution rights for Commodore computers were not included in the offer. Ferrier-Hodgson said there were potential takers but the decision was made to liquidate the company. Most of the warehouse stock has been sold off.

From now on distribution of Commodore Amiga computers will be handled by Commodore Asia Pacific, headed by Pat Byrne who was MD of the failed Commodore Australia. He said he has no financial interest in Commodore Asia Pacific, Commodore Australia, or the company which will service Commodore machines from now on, Compu-Aid.

Industry observers say the new company appears to have obtained the stock of the failed company, so supply should not be a problem. They also noted that during the past few weeks there have been stories of dealers receiving Commodore computers without insides, or even boxes without computers.

(Stuart Kennedy, CDN and Paul Zucker/ 19940311)

Lotus releases ScreenCam

CAMBRIDGE, MASSACHUSETTS, U.S.A., 1994 APR 4 (NB) — Lotus has released Lotus ScreenCam for Windows as a standalone product with a suggested retail price of $US79.

The multimedia screen and sound capture utility, which has previously been available as a bundled promotion with 1-2-3 Release 4 for Windows: Multimedia Edition, will be available for wide distribution as a separate package in North America within the next ten days, according to Lotus officials.

In the second quarter, Lotus expects to ship localized versions of the software in Czechoslovakian, Danish, Dutch, Finnish, French, French Canadian, German, Hungarian, Italian, Japanese, Norwegian, Italian, Japanese, Norwegian, Polish, Portuguese, Spanish, Swedish and Russian.

Billed as Lotus' first standalone multimedia product, ScreenCam is designed to let users capture application screen activity, cursor movements and sound into an integrated file that can be saved and distributed to workgroups of all sizes.

Target applications for ScreenCam include training, communications and presentation. The product can be employed by end users or technical support staff to explain to other users how to perform a process or solve a computing problem, according to Steve Barlow, senior manager for the Multimedia Products Group at Lotus.

Vendors can use the software to demonstrate new products, or to create courseware or online help, said Barlow. Lotus is also pursuing ScreenCam bundling deals with original equipment manufacturers (OEMs).

Users can create ScreenCam files of any Windows-based application by clicking on the ScreenCam "record" button, according to Barlow. By moving the mouse, typing in keystrokes, and speaking into a microphone, the user can capture all events on screen while simultaneously recording the corresponding explanations.

ScreenCam files can be saved and distributed to workgroups of all sizes either as standalone, executable files or as embedded OLE (object-linking-and-embedding) objects in any document. The recipient of a ScreenCam document does not need to have either ScreenCam or the application recorded with ScreenCam to play back the ScreenCam "movies."

ScreenCam calls for less storage space and

capture/playback costs than other video products, according to Barlow. Only a 386-based PC running Windows 3.1, with sound card or a portable sound device which attaches to the PC parallel port, is needed for playback. Special hardware such as a CD-ROM (compact disc - read only memory) or video card is not required.

(Jacqueline Emigh/19940404/Reader contact: Lotus Development Corporation, 617-577-8500; Press contact: Diane Horak or Dana Lieske, McGlinchey & Paul for Lotus, 617-862-4514)

Symantec buys Central Point Software

CUPERTINO, CALIFORNIA, U.S.A., 1994 APR 4 (NB) — Symantec is buying its eleventh company since it went public five years ago. This time the company is competitor Central Point Software and Symantec says that the $US60 million merger is aimed at strengthening the company's networked computing product line.

Network computing, also known as enterprise software, is one of the fastest growing software markets, according to Symantec company officials. Gordon Eubanks, CEO and president of Symantec said: "Our Norton enterprise products are already well-received."

"We have sold more than 100,000 copies of Norton Administrator for Networks. However, this market is competitive. By combining with Central Point, we will significantly increase our resources committed to the enterprise," he added.

Chuck Boesenberg, CEO and chairman of Central Point, commented that "success in the competitive enterprise arena was critical to both companies' long-term growth. Symantec's strengths — data recovery and data management — are very complementary to our own. Together we are a stronger enterprise company."

Central Point and Symantec are well-known in the software industry for their utility software packages aimed at both IBM compatible and Apple Macintosh computers. One of Central Point's most popular products is the PC Tools set of utilities for file management and system backup.

Nevertheless, Central Point also has a strong antivirus and utilities software line. Newsbytes asked Symantec representatives if any problems were anticipated with the merger in terms of government regulations against a monopoly. The officials said no, because the company plans to approach the merger with an enterprise software focus to the government commissions involved. Officials also said the company intends to market the product lines as they are, without combining or eliminating products in the merger.

As a result of the deal, Central Point's Boesenberg will take a seat on Symantec's board of directors. Symantec says it will consolidate much of the operations acquired in the Central Point merger in its Santa Monica, California offices. As a result, the Central Point offices in Beavorton, Oregon, will be reduced from a workforce of 280 to about 100 employees, Newsbytes understands.

The merger will be accounted for as a pooling of interest as all outstanding shares of Central Point stock will be exchanged for about 4 million shares of Symantec stock, depending on Symantec's stock price at the time of the merger. Company officials said they anticipate the merger could be completed by June.

A large portion of Symantec's product line has come via acquisitions. It has purchased 14 companies since it began in 1989, but the first company purchased after it went public in 1990 was the popular software utility maker, the Peter Norton Group.

The company has also acquired several other popular software companies including: Contact Management International, developer of contact management software ACT!; Dynamic Microprocessor Associates, developers of remote access software PC Anywhere; and Zortech, makers of programming language C++.

Symantec's most recent purchase was last fall's acquisition of Baton Rouge, Louisiana-based Fifth Generation Systems. Fifth Generation Systems is also a maker of anti-virus software and utility software, but probably is best known for its back-up software product Fastback.

Symantec (NASDAQ: SYMC) reported revenues of $US205.9 million in its 1992 fiscal year with losses of $US11.5 million.

(Linda Rohrbough/19940404/Press Contact: Lori Cross, Symantec, tel 310-449-4258, fax 310-398-8316; Deanne Phillips or Jill Pembroke, Central Point, 503-690-2650)

WordPerfect gets new MD

SYDNEY, AUSTRALIA, 1994 FEB 4 (NB) — WordPerfect Pacific finally has its new MD, after quite a few weeks of searching. Outgoing MD and Regional Director Doug Ruttan this week announced his replacement.

The new chief will be Bruce Larkin, formerly director of marketing at Unisys. He officially starts work on February 14 with a few days of corporate training at WordPerfect's US headquarters.

It is believed that another candidate had accepted the job, but when his seniors at IBM Australia heard of the plans they "upped the ante" so he is staying in Big Blue's PC Australian division.

Doug Ruttan is a widely respected figure in the Australian PC industry, having previously headed Sourceware, a PC products distributor. While he has not revealed what he will do post-WordPerfect, it is believed to be something in the industry. What is known is that he will become a commentator for Australian PC World magazine.

(Ian Robinson and Paul Zucker/19940204)

Ziff-Davis launches "Interchange"

CAMBRIDGE, MASSACHUSETTS, U.S.A., 1994 JAN 24 (NB) — Ziff-Davis has announced Interchange, a Windows-based online service set to debut in the fall, and renamed its online division Ziff-Davis Interactive. The announcements were made at a trade show in Indian Wells, California.

Newsbytes will be a featured part of Interchange, Ziff-Davis Interactive president Michael Kolowich said during an interview, and the company will continue to maintain its text-based operations on both CompuServe and Prodigy.

"We're on CompuServe for the long run," he said. "We're on Prodigy for the long run. We're not going to pull them. We like them. What Interchange is about is taking advantage of new platforms and new communication methods that CompuServe and Prodigy haven't yet approached."

He added it will be relatively simple for Ziff to create its own stand-alone service, since it already has the computers and packet network arrangements necessary to go into the business.

"The big work right here is in the client software that resides on peoples' PCs," he continued, "and building an engine that can present rich graphical information that is flexible enough to accommodate multimedia elements over time. The really big advance here is that at the heart of Interchange are compound multimedia documents, as opposed to text," he said.

"That enables us to provide a much richer experience for the user. The other thing is that because we're based on modern host technology and we're able to design for a world of more powerful computers, we're able to employ techniques like object-oriented architecture and we can assume multi-tasking personal computers at the other end. That lets us aim much much higher than traditional services have in terms of functionality," he added.

The minimum configuration for accessing Interchange will be a PC with Windows 3.1, or eventually a Macintosh with System 7) software, based on a 386 or 486 chip with 4 megabytes of memory and a VGA screen. A 9600 baud modem is also recommended.

"That is a more stringent requirement than most systems installed today, but it comprises the vast majority of systems sold in the last 18 months. We already have services that are accessible to people with less capable machines — they can get our information through CompuServe and Prodigy. It's incumbent on us, with the markets we serve, to aim much higher and not compromise the service," he said.

Kolowich also described how Interchange interactions will feel to the user. "Windows does multitask, but the real trick is to build client software that opens multiple virtual channels to the host, so that things are able to go on in background, like downloads, updating mail, and updating other information on your PC, at the same time requests are being served instantly in the foreground. As soon as you click on a mouse to open a document, the software has to be able to respond, stop the download, serve that request, then go on with what it's doing," he said.

Continued on page 16

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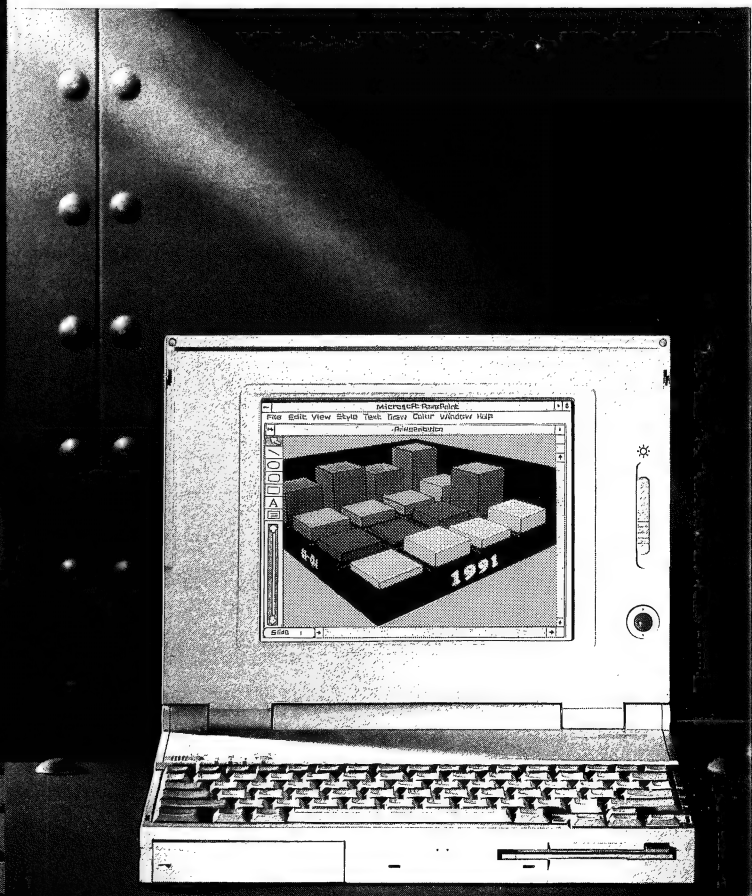

The Ball Partnership COM0194

Pricing is still being determined, Kolowich added, although the company has settled on a monthly fee, with a generous bundle of free hours, and a price point slightly higher than America OnLine, which pioneered that type of pricing. Early tests start in roughly a month, which should grow to a 50,000 person beta test by mid-year, with full commercial operation this fall. Kolowich added that Ziff is looking at TeleScript, from General Magic, although "We'd like to see it more real before we make a commitment to it. But certainly we're capable of accommodating that technology in both our messaging and in our agent approaches, if it makes sense."

Finally, Kolowich addressed the question of the Internet. "It's a nice four-lane highway, but everyone's driving brown Volkswagens on it," he said. "We will support Internet mail right away. One of the interesting challenges is for us to figure out how to use highly-graphical approaches" to Internet data.

(Dana Blankenhorn/19940124/Press Contact: Lisa Landa, Ziff-Davis Interactive, 617-252-5211)

10Mbps access to "Internet"

WASHINGTON, D.C., U.S.A., 1994 APR 19 (NB) — Infonauts in the Washington, DC, area can now get 10 megabits-per-second wireless access to the Internet and may soon have similar high-speed access to other services such as America Online and Prodigy, according to Craig Strachman of Hybrid Networks.

Hybrid, based in Cupertino, Calif., has worked out a deal with George Washington University that will not only give Internet access to Washington residents, but also to the campus data system. It is Hybrid's first commercial offering in the two years the company has been working on wireless technology, Strachman, Hybrid's manager of market communications, told Newsbytes.

Hybrid has installed an antenna at American University, one of the highest points in the DC area. Users of the Hybrid access system will need to buy remote link adapters from Hybrid and be within line of sight from the AU tower. GW is providing the wireless TV channel for delivery of the signal.

"With (Hybrid's system), GW will place important campus data and other information online," said Ted Christensen, assistant vice president for GW television. "The university and medical center will be able to offer cost-effective remote access to this information through the greater Washington, DC, area."

The remote link adapters are devices that receive high speed data from cable or wireless and send it to the computer over an Ethernet connection. The RLA model for an Ethernet connection costs $US1,495. In addition, the connection requires a $US100 monthly charge. Users will get a full Internet TCP/IP (Transmission Control Protocol/ Internet Protocol) connection and a unique Internet address.

"This is fast enough to allow real use of Mosaic (the Internet graphical interface) from a remote site," Strachman said. "Most users find Mosaic too slow from a modem." Later, Strachman said, "We will be running some trials with America Online and Prodigy connections over wireless" in Washington.

The Washington offering is based on work Hybrid began earlier in San Francisco and is still working with on an experimental basis. "DC is the only place offering full service," Strachman said. "We are also doing a two-way cable trial in Marion, Pa., and Castro Valley, Calif.," he added.

According to Strachman, Hybrid is also working with Intel and General Instrument to shrink the remote link access box down to the size of a PC card. He said that project will probably take six months or so. ○

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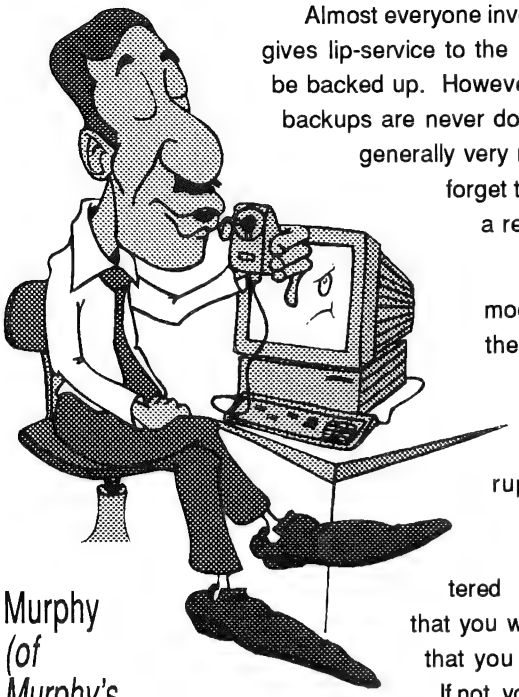
Backups - technologies & strategies

Paul Marwick



Murphy *(of Murphy's Law fame)* was a very early convert to PC's

Almost everyone involved in computer use gives lip-service to the idea that data should be backed up. However, in many instances, backups are never done. Modern PCs are generally very reliable, so its easy to forget to perform backups on a regular basis.

Reliable though modern PC hardware is, there are *always* going to be instances where something goes wrong. A power interruption at a critical moment, an accident (have you ever entered *"DEL *.*"*, then found that you weren't in the directory that you thought you were in? If not, you will, sooner or later). And even though PC hardware is very reliable, there's always the chance that a component may fail at a critical moment. Murphy's Law is *very* applicable to computers.

How serious is data loss

For a home user, this sort of failure may not be catastrophic. Your livelihood may not depend on the data that just vanished, never to be seen again. However, rebuilding the data will be, at the very least, a nuisance and a waste of time.

For a business, this sort of failure can be catastrophic. Many small businesses will not be able to afford the time and money required to replace data that wasn't properly backed up, and many may never recover from this sort of data loss. Computers have become so much a part of almost all businesses that many could not operate if their data is lost.

In larger businesses, downtime caused by a substantial loss of data may be very costly. Not only will someone have to be paid to reload the data, but there will be others who's time cannot be productively employed since the data is not available. In a large network situation, even if backups are available and will recover all the data lost, the time spent reloading the data may be very costly, since workers will be unable to make use of the data until its reloaded and available to them again.

Another factor to consider is the amount of data generated or used by modern PC hardware. It is becoming increasingly difficult to buy a hard drive of less than 200 megabytes capacity. And many modern programs are of a size which means that you wouldn't want to buy a smaller hard drive anyway. Often, the data that the programs generate is also large (especially if you use graphic files).

If you accept that backups are necessary, the next question is "What is the most effective way of performing those backups?"

Backup Technologies

There are a number of ways of backing up data. There are also a number of different reasons for backing up data. First of all, the ways in which data can be backed up:

1 Floppy disks.

2 Other removable media (Flopticals, Magneto-Opticals, etc.)

3 Tape technology.

4 Mirroring of data to other none removable media.

5 Permanent archival storage (WORM or CD-ROM technology).

Reasons for backing up (which will influence the technology employed to at least some degree):

1 **Emergency recovery** of vital data on a day-to-day basis.

2 **Short to medium term archival storage** of data that is not in regular use but may need to be referred to after initial work with the data is finished.

3 **Long term archival storage of data**, which may be required for legal purposes, or may simply be valuable data which can be used multiple times, but does not need to be active at all times.

4 **Data exchange.** Providing data for others, be they a branch office or another firm, or a friend who wants some of the GIF files you've produced.

First, I want to look at the technologies available for backing up data, and briefly examine what type of backup they are most suitable for.

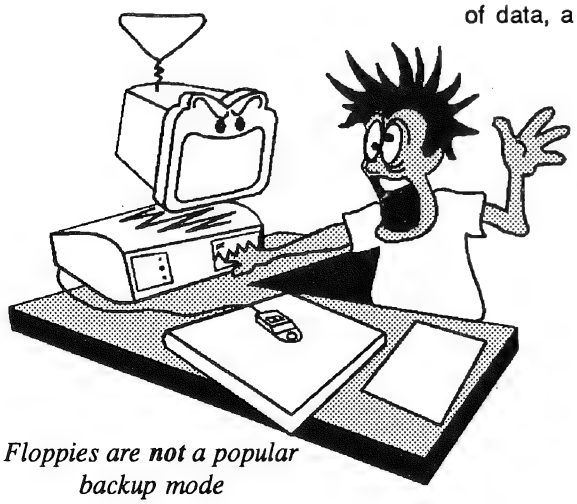
The technologies available

Floppy disks

Floppy disks are useful, but extremely limited. Their maximum data storage capacity means that, other than backing up small amounts of user generated data, they are going to be required in large numbers to back up any significant amount of data, even on a home user's machine, let alone on a business machine. The number required means that backup is going to be expensive, and is also going to be labour intensive (someone has got to sit in front of the machine and feed it floppies when it wants them, which means that you're working for the machine, rather than it working for you...). In addition, floppy disk storage is not necessarily good long term storage - not only do floppy disks get lost, data stored on them cannot be guaranteed over very long periods of time.

Other removable media

Other removable media covers quite a lot of territory. At the bottom end of this range, there are things like Floptical disks, which give you 20 megabytes of storage in the same form factor as a 3.5 inch floppy disk. Then you have things like *Syquest* removable media drives, and the more modern magneto-optical technologies. The problem with this type of technology for general backup purposes is cost. A floptical drive and controller will cost at least as much as a cheap tape drive, and media costs will be similar on a unit basis to the cost of tape cartridges. The only trouble there is that where even the cheapest tape drive should allow you to store 80 megabytes or more of data, a Floptical disk will only allow you to store 20 megabytes of data. So media costs will soon become very high if you have anything resembling large amounts of data to backup. At the moment, MO drives are an expensive option in this country, though their costs in the USA are now becoming a bit more approachable.



*Floppies are **not** a popular backup mode*

Technology Options:

- Floppy disks
- Other removables
- Tapes
- Mirroring
- WORMs CD-ROMs

Tapes

Tape technology covers quite a bit of territory as well. I'll be discussing tape technology in greater detail later. For the moment, its worth considering that tape drives have become a lot more affordable in recent years, and media costs for them are generally not too expensive. A tape drive then offers fairly cheap storage of medium to large data sets at a reasonable price. In addition, since tape capacities are almost always going to be higher than other removable media, there should be less work involved in making a tape backup than making a similar backup to a Floptical or MO drive.

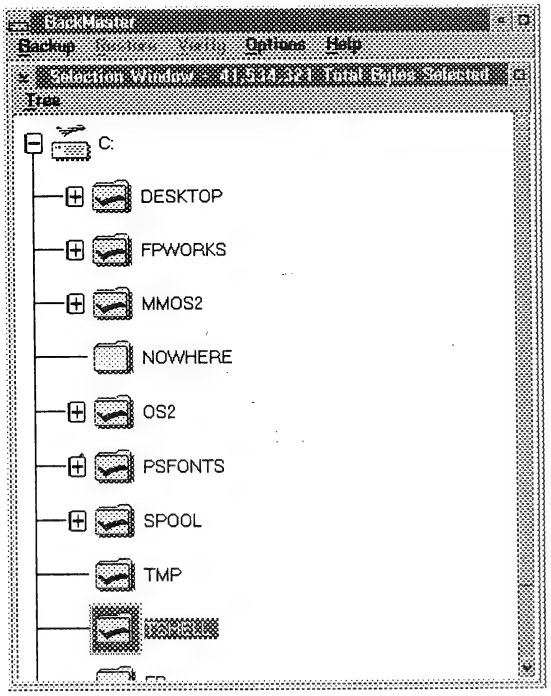
Mirroring

Backups can be performed by copying your data to another hard drive. This approach to backups has the advantage of being pretty quick and also requiring little manual intervention. Some hardware offers the ability to mirror data to another hard drive on a continuous basis, so backups become completely transparent to the end user (an approach which is quite frequently used in large network systems). However, while hard drive prices have come down considerably over the last few years, this is still an expensive option - you can almost certainly think of other, better things to do with a spare hard drive than use it as backup media. In addition to which, using a hard drive in this way will almost always mean that the data saved is physically located on the machine it is being saved from, which won't help you one little bit if an accident causes extensive damage to that machine, or is someone comes and steals the machine from you.

WORMs and CD-ROMs

Permanent storage media, such as WORM or CD-ROM technology is of limited use for backup purposes. Certainly, you can use something like a WORM drive as a backup, but for most normal backups it will either be very wasteful of media, or it will

...floppy disk storage is not necessarily good long-term storage ...not only do floppy disks get lost, data stored on them cannot be guaranteed over very long periods of time.



Backup software in action- setting up an automated tape backup

not provide sufficient coverage for real backup purposes. This type of technology is more suited to long term archival storage than it is to normal backup needs.

CD-ROM technology is even less suited to normal backup procedures, since the contents of a CD-ROM has to be recorded in effectively one pass. If a backup is to be effective for disaster recovery, it needs to contain multiple copies of data which may change only small amounts between generations. Permanent storage media such as WORM or CD-ROM really don't offer this sort of facility, at least not in any cost effective way. These technologies are ideal for long term archival storage of large data sets, but not really much use for anything else.

Given the technologies outlined above, you need to be able to make a decision on what will provide the best backup solution for your needs.

So what's the solution?

If the data you need to backup is reasonably small, floppy disks may be a solution. However, for most people, floppy disks are likely not to really provide enough data storage without becoming too expensive (not to mention too labour intensive as well). The same comment applies to the other forms of removable media also. The cost of a Floptical drive is fairly high, and, while the costs of disks for it is quite low, if you have much data to store, the costs are going to increase rapidly.

The one real advantage that floppy or removable media offers over tape is that tapes are not random access devices - tapes are sequential access, and it will thus take longer to retrieve data from than would probably be the case with any of the removable media solutions.

Most modern computer tape units are built following QIC standards.

For most purposes, tape units provide the best compromise, both in terms of cost and in terms of storage capability. Their one drawback is the sequential nature of data stored on tape - if you have to retrieve the data rapidly, tape will be comparatively slow.

If you make the decision to go to a tape backup solution, there are a wide variety of choices of different tape technologies. So are still decisions to make.

Tape Technologies

The earliest tape units for computers were probably the 9-track units which may be familiar to minicomputer users. These are physically large, and the tape is stored on open reels. You won't see much of this sort of technology applied to PCs, except possibly in data exchange roles. For general backup purposes, 9-track tape units are expensive, complicated, and have too little capacity to be particularly useful.

Most modern computer tape units are built following QIC standards. The Quarter Inch Committee (QIC) has set a wide range of different standards which apply to different types of tape unit and tape media.

The majority of tape units that you will find hooked up to PCs will use tape cassettes of one sort or another. These can range from units that look very much like an audio cassette through to units that are physically considerably larger.

The Quarter Inch Committee has defined a number of different standards which apply to these types of tape unit. I'm not going to try and cover all of them (if nothing else, I doubt that I *know* all of them). These standard cover things ranging from the physical construction of the tape cassettes through to things like the type of data compression that is applied to the data being stored. For the purposes of this discussion, I'm going to generalise a fair bit, and divide tape technologies into three main groups. You should be aware that each of these groups has a number of subsets and a number of variations. To attempt to cover all of them would be pushing my level of knowledge, not to mention the editors patience.

For this reason, I'm going to refer to three groups of tape technology -QIC-80, QIC-02 and DAT.

QIC-80 tapes

QIC-80 tape units use a small tape cartridge (80mm x 60mm x 15mm), containing 93.7 metes of tape. The cartridges have an alloy backing plate to provide rigidity. QIC-80 technology is all based on floppy disk technology, and most tape units of this sort attach to the floppy controller in a PC. Because they are based on floppy disk technology, the data transfer rate that they are capable of is relatively low. Also (I'm told) because they are based on floppy technology, the tapes must be formatted in much the same way that a floppy disk must be formatted. Maximum storage capacity of this type of tape is around 250 megabytes of data (around because that figure depends on data compression, which will vary in effectiveness depending on the type of data stored).

This type of tape unit has a number of variations. For instance, some QIC-80 tape drives use a separate controller rather than being attached to the floppy drive controller. And some recent versions can be plugged into a printer port rather than having to be attached either to a floppy drive controller or a separate controller. However, both variations still make use of floppy drive controller technology and have the same limitations in terms of data transfer rate that applies to floppy controllers. In general, you are unlikely to see anything much better than around 3 to 3.5 megabytes per minute of data transfer with this type of tape unit.

Another variation of this type of tape unit is a dedicated controller which includes hardware data compression. This will provide slightly higher data transfer, and slightly less load on the PC's CPU, but at a greater cost.

In addition to the QIC-80 units, there is another standard which uses the same size tapes. These use a different data format and do not comply to the standards set for QIC-80 units. Somewhat like the difference between VHS and Beta video recorders. In much the same way as the Beta video recorder has died out, the alternate QIC-80 format has almost died out. The only drives that I am aware of that still employ this format are the Irwin range, which are no longer in production.

QIC-80 technology covers the bottom end of the market. As such, it probably provides the most cost effective tape backup solution for the home user and also for a small business. However, its data transfer capabilities are fairly low (leading to long times required for big backups), its capacity is limited and its data reliability is not as good as some of the other technologies.

QIC-02 tapes

What I've chosen to call QIC-02 technology covers an enormous range of capacities and types. The cartridges used in this type of drive are physically larger (50cm x 10cm x 15mm). Tape lengths vary depending on capacity, and there are a number different capacities available (currently these range from 250 megabytes to around 2 gigabytes). All of these units have their own dedicated controller, or are SCSI devices which will run from a SCSI controller which may also control other SCSI devices such as hard drives, CD-ROM drives, etc.

Data transfer rates for QIC-02 technology are considerably higher than those of QIC-80 tape units. Most of these units will transfer data at 5 megabytes per minute or better.

QIC-02 tapes do not normally require any formatting, and the majority of them do not make use

of data compression to increase their storage capacity.

This type of tape unit occupies a broad midrange in terms of price (the broadness of that range being due to the number of different capacities which fit the overall type.

DAT tapes

DAT technology is the most recent addition to tape backup technology. It is derived from Digital Audio Tape technology, and uses a small form factor tape which is identical in appearance to the cartridge used by an audio DAT player (70mm x 54mm x 6mm). The tapes are either 60 or 90 metes long. Capacities vary from 1.5 gigabytes to 2 gigabytes in uncompressed form to around 8 gigabytes in compressed form (with a suitable tape drive which supports hardware data compression).

One other feature that makes DAT technology attractive is the access times that most DAT drives possess. While it can take considerable time to reach a block of data that needs to be restored with a non-DAT drive, most DAT units have an access time to data on any part of the tape of less than a minute. The WangDAT 3100/3200 series units have an access time of 20 seconds. Which means that restoring specific data from a DAT drive is liable to be a lot faster than it is with any other tape technology.

These tape units are generally more expensive than either of the other type mentioned. Their data transfer rate is higher than the other types mentioned (around 10 megabytes per minute, with some double speed DAT drives being capable of almost double this figure).

All the DAT tape units I've seen are SCSI devices, so using any of them will require a SCSI controller fitted to the PC. Unless you're already using SCSI drives, this will increase the cost of purchase.

While the majority of DAT units use 4mm tape, the first of this type used 8 mm tape. These cover units such as some of the Exabyte range. Generally, 8mm DAT technology is becoming uncommon, and is more expensive than the 4mm DAT technology.

Capacities of DAT tapes vary from 1.5 gigabytes to 2 gigabytes in uncompressed form to around 8 gigabytes in compressed form

...the first thing you do after making and verifying a backup set is to try and restore some or all of the data

Costs

Having looked (briefly) at the different tape technologies available, we should give some consideration to the costs associated with these technologies.

QIC-80 tape drives are available from around $350. There will be variations depending on a number of factors - whether the tape drive is internal or externally mounted, whether the tape drive hooks up to the floppy controller or has its own dedicated controller (and whether or not that dedicated controller includes hardware data compression) and whether or not the tape unit is designed to run from the printer port of the PC. Given the variations, a top price is difficult to estimate, but could rise to around $850.

QIC-02 units cover such a wide variety of types and capacities that pricing can only be very roughly provided. A 250 megabyte capacity QIC-02 unit would probably be in the region of $700. Some of the high capacity units (2 gigabytes or greater) cost $1800 or more. In addition, any SCSI drive of this type will require a SCSI controller, which will add to the overall cost of the unit.

DAT tape units cost anywhere between about $1800 and $3000. Once again, an SCSI controller will be required to run any one of them, which will add to the base cost of the unit itself.

There is also another aspect to costs which often gets overlooked when making a decision on purchasing a tape drive. That is the cost of media. The amount of media required will vary depending on the amount of data to be backed up and the number of backups required, but it should also be considered when making any purchase decision.

For QIC-80 drives, media will cost about $40 for unformatted tapes, through to about $50 for formatted tapes. Given that formatting QIC-80 tapes is a lengthy process, buying pre-formatted tapes is probably the most practical approach (formatting a 250 megabyte QIC-80 tape will take about 2 to 2-1/2 hours).

For QIC-02 style tape units, media costs will vary depending on capacity. A 525 megabyte tape would be somewhere in the region of $50.

A data certified 90 metre (2 gigabyte) DAT tape is the cheapest form of backup media available, costing somewhere between $30 and 35. Given the capacity of the tape, this is very cheap backup media.

What other factors in the choice of backup hardware

When making a choice of backup hardware, another factor which needs to be considered is how many machines you may need to backup. If it is more than one, are those machines linked on a LAN? If not, it may be well worth considering one of the tape drives which plug into the printer port. That way, a single tape drive can be easily shared amongst several machines. Even though this type of drive is more expensive than the normal QIC-80 style drive, it will certainly be more economic to do this than to have to purchase one drive for each machine.

If the machines to be backed up are linked on a LAN, you will need to ensure that both the hardware and software will work with the LAN being used.

Reliability must be the single most important consideration when it comes to any backup technology. If the data that has been backed up can't be reliably recovered when needed, money spent on the backup solution is completely wasted.

Tape software and backup strategies.

Once a decision has been reached concerning the most suitable backup hardware, some attention needs to be given to the software which will be used with that hardware.

For a long time, tape backup software could easily have been ranked as the worst of any type of software available. A great deal of it was prone to errors, most of it was not exactly user friendly, and most of it was less than easy to use in unattended situations.

Tape drives (especially the older ones) tend to be touchy about possible hardware conflicts. This can make tape drives difficult to set up and get to work reliably. While the technology has improved (you no longer need a degree in physics with extras in black magic to make most tape units work), there are still a number of areas of possible conflict which need to be treated with caution. For instance, QIC-02 tape units which have their own controllers will have memory addressing requirements, DMA channel requirements and also IRQ requirements, all of which can result in conflicts with other hardware. Some floppy disk-linked tape units may have problems with things such as bus-mastering SCSI controllers, and may cause problems with access to the floppy disk(s) fitted to the machine. In general, SCSI tape units are the easiest to set up, and the least prone to conflict problems.

All of these factors need to be considered when making a choice of hardware. They need to be checked again when installing that hardware.

Most of the tape drives on the market come with software. In many instances, this software is now derived from the Central Point backup program, so it's fairly easy to drive. For others, you may need to purchase software separately, so you should enquire as to what software comes with the drive or

is available for it. In a number of instances, only specific software will work with a particular tape drive.

There is another aspect of tape backups that often seems to escape users. They get the hardware and software, and begin religiously making backups. Often they'll also use the verification function built into most tape backup software to check the integrity of the backups they've made. But they seldom try to use the restore function to pull data back from the tape, at least not until they have to. At which point, it is all to often the case that the data cannot be restored accurately.

I would strongly suggest that, once you've started to make backups, the first thing you do after making and verifying a backup set is to try and restore some or all of the data contained in it. In most instances, restoring part of the data is the most useful option. Not only should it give you a fair idea as to the real reliability of the backup, it should also give you an idea of how easy (or otherwise) it is to selectively restore data from a backup. In many instances, you may only need to recover one or two files from any backup set, and its a good idea to find out early how complicated and how fast this can be done.

Once you have satisfied yourself that the backups work, you need to give some consideration as to what pattern you will use for making backups. Will you back up all the data on your hard drive, or will you backup only the user generated data which changes frequently? How often will you need to make backups to provide adequate data security? How many backup copies should you have?

All of these questions will have answers differing depending on individual circumstances. However, there are some general guidelines that can be given.

First, it will probably be a good idea to make at least one complete backup of the whole system. While you should have original program disks to reload your operating system and applications should a disaster occur, this could well be a time consuming thing to do, especially when it comes to rebuilding the user configured portions of any system. You may not realise how many hours you have invested in customising your software to suit your own tastes and methods of working. Having to rebuild that customisation will soon make you realise how much effort you've already invested in doing so.

The frequency with which you perform backups will have to depend on how frequently your data changes. A complete system backup should not need to be made often, but a backup of user data may need to be done every day, or at least once a week.

As to the number of backup copies you need to make, that will depend on how much confidence you have in the reliability not only of the tape drive in use, but also of the tapes themselves. While DAT drives claim a reliability greater than most hard drives can approach, the same cannot be said for QIC-80 or QIC-02 drives. While both types are quite reliable, it is still a good idea to have more than one copy of vital data. In a business situation, a rotating set of at least 3 backups is probably a good minimum figure.

Tape Backup Strategies

- **Backup** — Full
  —Incremental
- **Verify**
- **Test restore**
- **Automate**
- **Test compatibility**
  —Operating System
  —Platform

In addition to the number of backups, you should also give some consideration to how the backups are stored. If you have a nice row of tapes next to a machine and an accident damages the machine, you cannot be certain that it won't also damage all your backups as well. If at all possible, you should give consideration to storing at least one backup off-site. While this is often not a real option for a home user, it is something that all businesses should do as a matter of course.

Most backup strategies include making so called 'incremental' backups. These are backups which do not attempt to back up all data, but backup only data which has changed (this can be controlled by using and resetting the archive bit on files, or by criteria based on date). While incremental backups will certainly be economical when it comes to use of backup media, they are also liable to become complicated to restore if there are too many generations of incremental backups. In many instances, a full backup once a week, with incremental backups made between those full backups will offer the best compromise in terms of reliability and economy (both of effort and of media).

Another factor which is often overlooked is how easy it is to automate backup procedures?

Making backups is an essentially tedious process. To be effective, it must be done with religious zeal. The trouble is, religious zeal is difficult to maintain when it comes to something as boring as watching a tape unit gobble data. In a business situation, there may be a staff member who is assigned the task of doing backups, but what happens when that staff member goes on holiday or is ill?

It is important to consider how easy it is to automate as much as possible of the backup process. In a LAN or multitasking situation, it may be possible

to make backups without having to stop other activity on the machine(s). If not, you will find the best results with a backup package that can be set to run automatically, outside of hours when the machine would normally be in use. So when you chose backup software, looking at a menu driven interface which allows you to tag files for backup is not going to be as important as finding a package which either has the ability to store backup profiles for unattended operation, or to be run from a batch file. Ideally, the only human intervention that should be needed should be ensuring that the correct tape is in the drive when needed. The rest should be left to the machine (which hopefully doesn't suffer from boredom...).

Cross-platform compatability

Earlier I mentioned data exchange as one possible reason for using a tape unit. This can be very useful indeed. Unfortunately, it can also be extremely frustrating. While things like the QIC standards set standard for tape mechanics and electronics, and also set standards for things like data compression formats, there is not a great deal of compatibility between different tape software.

For QIC-02 units, almost all software uses proprietary data formats. While the situation is better with QIC-80 and with DAT software, there is still no guarantee that you will be able to read the tapes produced by *Sytos Plus* if you are using *Mountain FileSafe* (to take just two examples...). If you are interested in being able to exchange data on tape, you will have to be sure that whoever you are going to be exchanging the data with will be able to read the tapes you produce, and that you will be able to read the tapes they produce.

When it comes to moving data between platforms (whether they're different operating systems or different hardware), the situation is even worse. I was recently considerably less than impressed to find that the OS/2 tape backup package I was using was unable to read the tapes produced by the DOS version of the software, even though the software is produced by the same firm!

For this type of interchange, about the only widespread standard supported is the TAR standard (which was originally derived from Unix). If you have a suitable drive (which almost certainly means an SCSI drive), you will be able to move data between DOS, OS/2 and most versions of Unix. Its a pity there are no other software standards that have the same degree of compatibility. ○

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Mail Facilities on the BBS

Paul Marwick

With the growing popularity of the mail facilities offered by the BBS systems, it would probably be a good idea to examine just what those facilities are, and how they can be used.

Types of messages

There are basically three types of message area that can be found on any of the systems. The first is local, the second is echomail, and the third is netmail.

Local messages

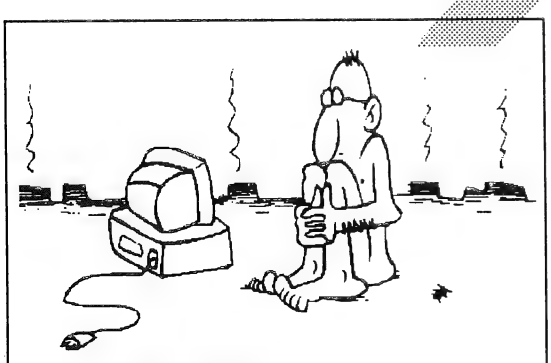
Local message areas are just what they sound like. Messages entered in them will be available only to callers on the Brisbug systems. They do not get passed any further. If you have a message for another Brisbug member, use one of those local areas.

Echomail

Echomail is a somewhat different kind of animal. It could most easily be regarded as conference mail. Messages entered in an echomail area will be sent on to other systems. In some cases those systems will be local, in some cases they will be spread around the whole of Australia, and in some cases they will be spread worldwide.

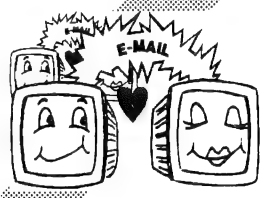
In the case of an echomail area, you may find a number of other bulletin boards in Brisbane have exactly the same messages on them that you will find on the Brisbug systems. By its nature, a message generated on one of the Brisbug lines may be reproduced thousands of times, and end up on thousands of different systems.

Since echomail is intended as conference mail, it is not the place to put a private message to another user of the same system. In most instances, echomail will not offer the facility to make a message private.Messages in such areas are intended for all to read, even though they may be addressed to an individual.



Message received, and understood, sir...

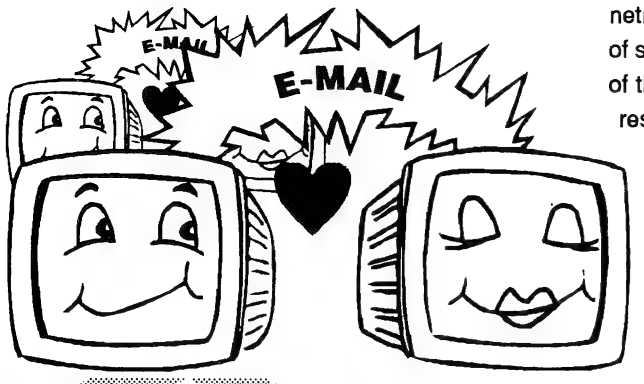
Echomail is also generally very topic specific. The range of available topics is enormous (ranging from cooking through to advanced programming), but in almost all instances, an individual echomail area will be devoted to a single topic. This means that before you enter a message in an echomail area, you must be sure that the message is related to the topic of the area. Failure to do so can have unfortunate consequences.



Fidonet

Almost all of the mail carried by the Brisbug systems is Fidonet mail. Fidonet is an amateur network, devoted to electronic mail. As such, almost all of the costs involved in moving mail around the world are borne by private individuals, in many cases without any sponsorship or support. The costs of moving the volumes of mail that currently exist are very high indeed. While Fidonet technology is probably the most efficient technology when it comes to moving mail from one point to another, the sheer volume of mail involved means that the costs of moving it are high. Or *very high* when it comes to echomail which is moved internationally.

As a result of the costs and the way they are met, many people will be unhappy if messages are entered in inappropriate areas. If it happens more than a couple of times, anyone responsible for entering messages that are not on topic may well find that they no longer have access to mail services. This is particularly true of people who enter messages intended for local recipients in international echomail areas. Most echomail areas have "moderators". These are individuals who set and police the rules for a particular echomail area. In some instances, there may be a moderator and deputies for an area. They have complete control over what is and isn't entered in an area. If you fail to follow the directions given to you by an echo moderator, don't be surprised if you no longer have access to that area. There are no avenues for appeal, the moderator's word is final, so arguing with an echomail moderator is liable to be self-defeating.



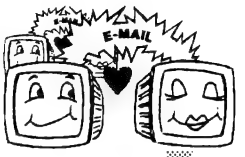
Netmail

Netmail is the third main type of mail facility provided by the Brisbug systems. This provides a medium for personal communication between individuals, and allows for messages that would be inappropriate in echomail areas. It also allows for private communication between individuals (though there are some aspects of 'privacy' regarding netmail messages that I will cover shortly). Netmail messages will go from an individual Fidonet system to another individual Fidonet system. They may be sent directly (in other words, system number one may phone system number two directly to deliver a message), or they may be sent via other systems (thus becoming 'routed' netmail messages). To give you an example of routed netmail, if someone enters a message going to a Fidonet system in California, it would go from Brisbane to Sydney, then from Sydney to a system in Oregon. From there, it would be routed on to California. In some instance, such a message might pass through 10 or more intervening systems before reaching its final destination.

While netmail provides for less controlled mail exchange than is allowed for by most echomail conferences, it is sent strictly to a single system. As a result, if you want to send a netmail message to your cousin in Melbourne, you *MUST* know a valid Fidonet address to send that message to. I've noticed a number of people entering messages to people and when prompted for an address, entering 3:640/0. This is much like putting a letter in the mail addressed to 'John Smith, Melbourne, Victoria'. The post office would have no chance whatever of delivering such a letter. In the same way, Fidonet would have no chance of delivering a message addressed to John Smith at 3:640/0. Unless you provide a valid address to send the message to, it will go nowhere, and will most likely simply cause annoyance (not to mention unnecessary expense, since any message addressed to 3:640/0 will now be sent to Cairns. And the gentleman in Cairns who pays the phone bill to pick up an undeliverable message is unlikely to be impressed).

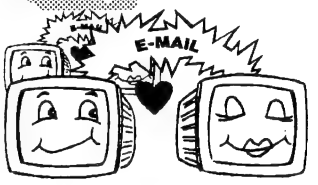
I mentioned privacy with regard to netmail earlier. In reality, these comments apply to any 'private' message on any BBS. As already mentioned, a netmail message may pass through a large number of systems before reaching its final destination. Each of those systems has an operator who is held legally responsible for any material passing through his or her system. As a result, any sysop who passes that message on has a right to examine it if they chose to. In most instances, they will not do so. However, if they do chose to do so, there is nothing that you can do to prevent them doing so. Nor do you have any right to attempt to prevent them from doing so.

While there are a number of methods of encrypting messages so that they cannot be read by others, such mail will *NOT* pass through Fidonet. Given that the sysop is legally responsible for traffic passing through his or her system, if you attempt to send an encrypted message, you will probably find yourself dealing with a very irate sysop, and also probably find yourself unable to send further messages.



The final result of this is that complete privacy cannot be guaranteed for any Fidonet message. If you really have a need for confidentiality in some correspondence, *DON"T* send it via Fidonet. It cannot and will not be guaranteed.

There is another form of 'encoded' message which is sometimes used. This is the process of UUENCODing messages. This technology was originally developed for use in the Internet, and is designed to allow binary data to be passed in an ASCII text format, allowing binary data to be passed in messages. While there is some tolerance for this type of message in Fidonet, that tolerance is not high. For instance, my reaction when I found that I had paid to pick up half a megabyte of such mail from Melbourne one night was to bill the recipient of the mail and inform him that if he ever arranged that sort of transfer again, he would find that all mail privileges were withdrawn. Not only from the Brisbug systems, but from any system in Queensland.



The costs of electronic mail

Few people have a clear idea of how much electronic mail is passed through Fidonet. To provide some idea of the volume involved, you should consider that my system is the primary mail gate for Queensland. At present, that means that it receives something in the region of 30 to 40 thousand echomail messages every week, and sends out something in the region of 250 thousand messages every week.

The electronic mail services provided by the BBS's are probably the most valuable services that they can provide. They provide a fast and generally very efficient means of communication on a huge range of topics, with participants spread to all parts of

...my system is the primary mail gate for Queensland. ...that means it receives 30,000 to 40,000 echomail messages every week, and sends out **250,000** messages every week.

DO
Enter your message in the correct area

Be polite

Use quoting

DO NOT
Use profanity in messages

Send commercials

the world. They provide a very valuable resource, which users are encouraged to make use of, and to contribute to.

However, if you make use of these facilities, do so with care. Provision of those facilities costs many people a lot of money, and if you misuse them, you will find that you very rapidly lose access to them.

BBS manners

There are some simple rules to keep in mind when using the mail facilities that the systems provide:

When you enter a message, make *SURE* that you are in an appropriate area before doing so. If it is to a local user, make sure that you enter it in a local area and *NOT* in a national or international echomail area.

If you are replying to an echomail message, it is a good idea to make use of the 'quoting' facilities that are provided by either the online or offline editors. Quoting a relevant portion of the message you are replying to makes it much easier to follow the subject, both for the person you are replying to and for others reading that conference. When quoting in a reply, do NOT overquote. All that is needed is sufficient of the original message to make the context of your reply make sense. Quoting more than this makes your reply difficult to read and costs people unnecessary money in moving the mail around.

Be polite. Electronic communication of the sort provided by echomail is something that is foreign to most people. It lacks the feedback element found in most audible conversation, and it is easy to offend someone without meaning to. So put some thought into the messages you enter to avoid causing offense. If you cause offense, you cannot expect not to be treated in the same way by others.

Do NOT use profanity in electronic mail. Not only are there possible legal consequences of doing so, both Brisbug as a club and I as the Brisbug sysop will NOT accept any profanity in any mail area. If you fail to follow this rule, your access to the Brisbug systems will be terminated without further warning.

If you have a private message for someone, use the netmail facilities provided for that purpose. However, make sure that you have an appropriate address to send that netmail to before you enter it.

Since Fidonet is an amateur network, it has strict rules regarding commercial traffic. Do not expect someone else in Fidonet to carry your commercial message traffic. Entering of commercial message is very likely to get you nasty messages from an echo moderator, and if repeated, is certain to result in your losing mail access.

Fidonet electronic mail services offer a very valuable resource, one which all users are encouraged to make use of. Just make certain that you do not misuse those facilities.

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MEMBERSHIP APPLICATION FORM

Name: _____
Please Print

Address: _____

Suburb/City: _____

State: _____ Post Code: _____ Phone (Home): _____ (Work): _____

Number of Members in Family: _____ Ages: _____

Type of User: Business ☐ Educational ☐ Hobby ☐ Other _____

Type of Computer: XT ☐ AT ☐ 386 ☐ 486 ☐ Other _____

Screen Type: MONO ☐ CGA ☐ EGA ☐ VGA ☐ SVGA ☐

Hard Disk Drive: YES ☐ NO ☐ Size: _____ MB Memory: _____ MB

Modem: Yes ☐ No ☐ Disk Size Preferred: 5¼ ☐ 3½ ☐

Operating System: DOS ☐ WINDOWS ☐ OS/2 ☐ Other: _____

Special Interests: _____

Membership Type: Individual / Family ☐ Educational ☐ Corporate/Associate Club ☐

Individual/Family/Educational Fees	Joining: $ 45.00	Renewal: $ 40.00
Corporate/Associate Club Fees	Joining: $110.00	Renewal: $100.00

Introduced by: _____ Membership No.: _____
Please Print Members Name

If payment of Membership Fees are to be made by Credit Card please complete details.
Tick Box

bankcard ☐ MasterCard ☐ VISA ☐ Expiry Date: ____/____

CARD NUMBER				

CARDHOLDERS NAME: _____
Please Print

CARDHOLDER'S SIGNATURE _____

I / We hereby apply for Membership of BRISBUG and agree to abide by its rules.

Signature: _____ Date: _____

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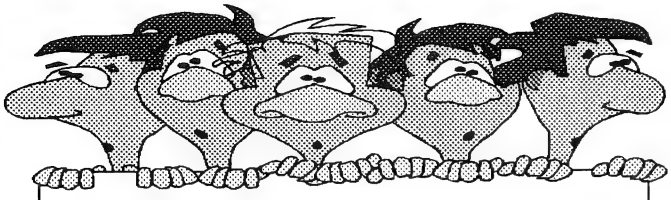
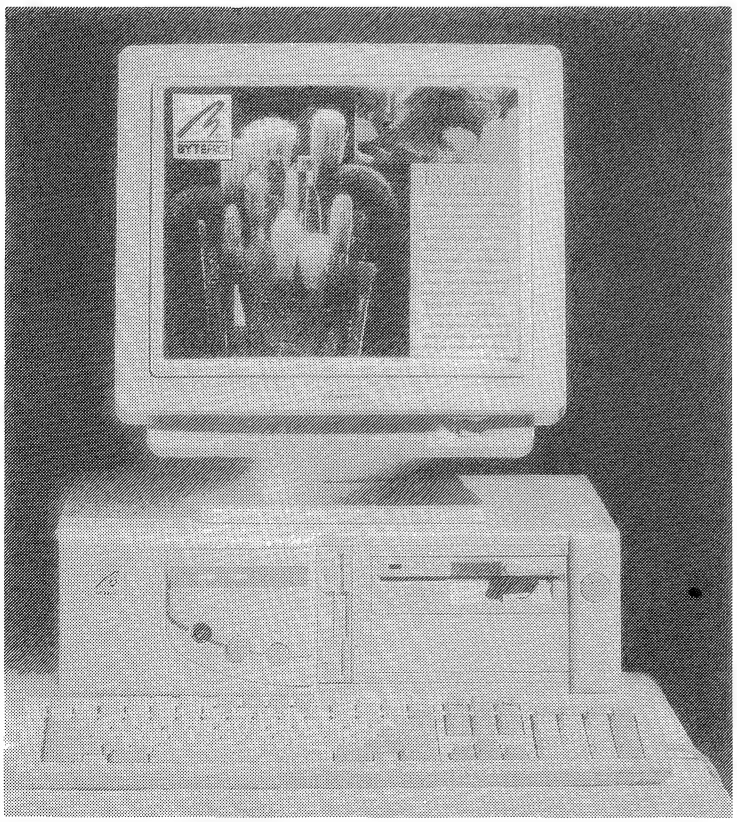


All members of Brisbug are invited to participate in a Membership Drive promotion to be conducted over the next 6 months from 17th April until 13th October 1994. Thousands of dollars worth of prizes can be yours for simply introducing a new member to Brisbug.

What you can win

The major prize you can win is a Compaq 486 Laptop Computer valued at $5050. Other prizes including Microsoft Office Professional, Lotus 1-2-3, AMI-Pro, Q & A for Windows, Nortons Utilities, Borland C++, Paradox, Wordperfect and many others will be won by lucky members each month.

A BytePro Desktop '486



The new members introduced by you are not forgotten. The major prize for new members is a BytePro 486 Desktop computer complete with Multi-Media facilities valued at $5000. Also new members will be eligible to win valuable software prizes.

When do I win

Each month during the competition, the names of both lucky members and new members will be chosen to receive a prize from the great range of software available.

To enter, simply introduce a new member to Brisbug using the membership form provided in this magazine, or obtain a form from the Membership Secretary or Librarian and you will become eligible to win a prize in the month the new member joins our club.

The new member will also be eligible to win a prize in the same month.

The Grand Finale...

At the General Meeting on the 16th October, all the names of members who have introduced new members will be placed in the draw for the Compaq 486 Laptop Computer, and the Microsoft software.

And Grand Finale 2

The following month at the General Meeting on the 20th November, the names of all the new members who have been introduced to and joined Brisbug will be placed in the draw for the BytePro 486 desktop computer.

There is no limit to the number of times you can enter - for each new member you introduce you receive an additional chance. So if you introduce 10 members, you get 10 chances, 30 members - 30 chances, and so on.

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Each month, at the General meeting, a draw for lucky winners will take place for the entries submitted in that month, for both existing and new members. If you can't get to the meeting, your prize will be forwarded to you. The names of the winners will be published in the succeeding months edition of SigBits.

The closing dates are:

Intermediate Win Competitions:

12th May 1994
16th June 1994
14th July 1994
18th August 1994
15th September 1994.

Main Competition -

13th October 1994.

The rules of the competition are:

You must be a financial member of Brisbug to be eligible to participate. (Associated Clubs, and Corporate Members are also eligible).

The introduced member must join Brisbug and must not have been a financial member of Brisbug for the previous 12 months.

You must use the special membership application form (or a good photocopy) to be eligible. (Additional forms are obtainable from the Membership Secretary or Librarian.)

The membership application must be in the hands of the Membership Secretary by 5pm on the closing dates listed. Applications received after the closing date will be carried forward to the next month, but applications received after the expiration of the contest (13th October 1994) will not be considered.

The Judges' decision is final and no correspondence will be entered into.

The aim of the Competition is to expand our membership and by so doing, we can expand our services and benefits to all.

BRISBUG MEMBERSHIP DRIVE PROMOTION

CONDITIONS OF ENTRY

1. Information on how to enter and prizes form part of these conditions of entry.

2. Employees of L. & L. Electronics, the Brisbug Software Librarian, the Brisbug Membership Secretary, the agencies or suppliers of prizes associated with this promotion and their immediate families are ineligible to enter.

3. Entries close 5pm 13th October, 1994.

The draw for the 486 Laptop Computer valued at $5050 and subsequent draws for Software including Microsoft Office Professional valued at $1210; Microsoft Office Standard valued at $1095; Microsoft Works valued at $199 will take place during the Brisbug General Meeting to be held on Sunday 16th October 1994 at QUT Kelvin Grove Campus, Victoria Park Road Kelvin Grove.

The draw for the 486 Benchtop Computer with Multi-media equipment valued at $5000 will take place during the Brisbug General Meeting to be held on Sunday 20th November 1994 at QUT Kelvin Grove Campus, Victoria Park Road Kelvin Grove.

Winners in each draw will be notified by mail and their names published in the Brisbug monthly magazine Significant Bits in the month following each draw.

Judges' decision is final and no correspondence will be entered into.

4. Each month during the promotion, intermediate draws for prizes will be conducted. The closing dates for each intermediate draw will be 5pm on the following dates:

12th May 1994, 16th June 1994, 14th July 1994, 18th August 1994 and 15th September 1994.

The draw for each intermediate prize will be held at the Brisbug General Meeting on the Sunday following the closing date for each intermediate draw.

Judges' decision is final and no correspondence will be entered into.

Intermediate win prizes and their values are as follows: 1 copy Lotus 1-2-3 valued at $735; 1 copy AMI-Pro valued at $735; 1 copy cc:Mail valued at $375; 1 copy Freelance valued at $737; 1 copy Organizer valued at $195; 2 copies Q & A for Windows valued at $399 each ; 2 copies of Nortons Utilities Volume 7 valued at $299 each; 1 copy Borland C++ with A/F valued at $795; 12 copies of Paradox 4.0 for DOS valued at $795 each; 16 copies of Paradox 1.0 for Windows valued at $795 each; 2 copies of DR DOS valued at $135 each; 1 copy WordPrerfect 6 for Windows valued at $695. Total Value of Intermediate win prizes $28293. Intermediate win prizes are not transferable or exchangeable and cannot be taken as cash.

5. During the period of the Membership Drive Promotion, all financial members of Brisbug with the exceptions as listed in condition 2, as above shall be eligible to enter the competition.

6. The following shall be the conditions of entry to the Membership Drive Promotion:

(a) During the continuance of this promotion, every financial member of Brisbug who introduces a new member who joins Brisbug shall be eligible to participate in the monthly draw for intermediate win prizes for that month.

(b) The new members so introduced who join Brisbug shall also be eligible to participate in the monthly draw for intermediate win prizes for that month.

(c) The new member must not have been a financial member of Brisbug during the 12 months previous to the commencement of this competition.

(d) All entries shall be on the Membership Application Form available for the duration of this promotion.

(e) At the conclusion of the Membership Promotion, the winners of the major prizes shall be selected from the names of all introducing members in the draw for the major prizes to be conducted on the 16th October 1994.

(f) On the 20th November 1994 the winners of the major prizes for all the new members who have been introduced and have joined Brisbug shall be drawn.

(g) The prizes allocated for each intermediate win draw shall be decided by the Management Committee of Brisbug and such prizes cannot be exchanged for alternate prizes.

(h) The winners of each intermediate draw for prizes shall be eligible for the major prize in each category.

7. The promoter is L. & L. Electronics of 95 Station Road, Booval, QLD 4304.

Learning Assembler using DEBUG

Dan Bridges

```
C:\DOS>debug

-E200 18 25 00 10 00 F8 66 20  ;Values to be added.

-A100                ;Adding two bytes expressed as immediate values
xxxx:0100     MOV AL,10            ;AL=10h
xxxx:0102     ADD AL,25            ;AL=10h + 25h
xxxx:0104                    ;Blank line to terminate assembler mode
-G=100 104
AX=0035       NC             ;Result (as byte in AL) is 35h.
                             ;No carry occurred.

-A100                ;Adding two bytes at specified memory locations
xxxx:0100     MOV AL, [200]        ;AL=18h
xxxx:0103     ADD AL, [201]        ;AL=18h + 25h
xxxx:0107
-G=100 107
AX=003D       NC     ;Result is 35h.

-A100                ;Adding two words at specified memory locations
xxxx:0100 MOV AX, [200]            ;AX=2518h
xxxx:0103 ADD AX, [202]            ;AX=2518h + 1000h
xxxx:0107
-G=100 107
AX=3518       NC     ;Result is 3518h.

      ;Adding two words whose result is greater than word-sized.
-A100
xxxx:0100     MOV AX, [204]        ;AX=F800h
xxxx:0103     ADD AX, [202]        ;AX=F800h + 1000h
xxxx:0107
-G=100 107
AX=0800       CY     ;"Result" is 0800h, but a carry occurred that
            ;had not been accounted for in the program's design.

-A100                ;Accounting for a possible carry.
xxxx:0100     XOR DX, DX           ;Ensure that DX contains 0000h.
xxxx:0102     MOV AX, [204]        ;AH=F800h
xxxx:0105     ADD AX, [202]        ;AX=F800h + 1000h
xxxx:0109     ADC DX,0             ;DX=0000h (+ 1h if carry occurred)
xxxx:010C                                  (+ 1h if carry occurred)
-G=100 10C
AX=0800  DX=0001     NC     ;DX:AX=10800h. No carry occurred after
                     ;the ADC, but carry occurred in preceeding ADD.

-A100                ;Adding two double words.
xxxx:0100     MOV AX,[200]         ;AX=2518h
xxxx:0103     MOV DX,[202]         ;DX=1000h
xxxx:0107     MOV BX,[204]         ;BX=F800h
xxxx:010B     MOV CX,[206]         ;CX=2066h
xxxx:010F     ADD AX,BX            ;AX=2516h + F800h
xxxx:0111     ADC DX,CX            ;DX=1000h + 2066h
xxxx:0113                          ;(+ 1h if carry occurred).
-G=100 10F          ;Registers before 1st add.
AX=2518  BX=F800  CX=2066  DX=1000 NC
xxxx:010F  ADD AX,BX

-T                   ;Result: AX=1D18h + carry
AX=1D18  BX=F800  CX=2066  DX=1000 CY
xxxx:0111  ADC DX,CX

-T                   ;Result: DX=3067 + no carry.
AX=1D18  BX=F800  CX=2066  DX=3067 NC
                     ;Overall Result: DX:AX=30671D18h with no carry.

-Q                   ;Quit session.
```

Figure 1. DEBUG session demonstrating ADD and ADC instructions.

This month I'd hoped to present a *COM* program that deciphered the master partition table's entries. But it struck me that too many new concepts would need to be introduced in one article, so I've decided this month to lay some solid foundations instead by discussing: arithmetic operations; the signing of numbers; the difference between jumps, conditional jumps and loops; how to terminate a program i.e. create and run a *COM* file.

Once again we'll be using just DOS' *DEBUG*. While a proper assembler such as *TASM* or *MASM* is required to produce and maintain any asm program of more than a few hundred bytes size, these commercial programs require a significant financial outlay ($100-200). (The shareware *A86* assembler may be a more cost-effective alternative for interested beginners - I've not included it in this determination because it appears a little nonstandard - perhaps a devotee of A86 would be kind enough to contribute an article explaining its good and bad points.) By using *DEBUG*, which is available to most readers, I hope to be able to cover many assembler topics on the cheap. Thus informed, you should be able to make a reasoned decision about whether or not you should keep on with assembler.

Note: most modern program languages allow you to smarten up parts of a program's operation by incorporating .OBJ files from compiled asm with the high-level language's own .OBJ files. Moreover, many languages let you use "inline" asm code (using asm language directly within a high-level language). So any asm knowledge you pick up along the way won't be wasted.

1 and 1 is...

Work your way through the examples in Figure 1. The AX register is called the Accumulator register. It is often used in arithmetic operations. Sometimes just AL is involved. At

Part 2

Arithmetic Operations & Loops

other times the DX:AX pairing will be used. When performing *"ADD Register1/Memory_Loc1, Register2/Memory_Loc2/Immediate_Value"* the result ends up in Register1/Memory_Loc1.

In theses examples we can see the use of the *Carry* bit in the *Flags* register. Any asm reference manual will state which flag bits can be affected by the execution of an instruction. Besides *Carry*, these two operands will also significantly affect the *Sign, Zero, Auxiliary Carry* and *Parity* flags. *ADC (Add with Carry)* is similar to *ADD* but it includes the value of the *Carry* bit in the addition.

3 minus 2 is...

Subtraction is similar to addition except that the *Carry* bit here signifies that a borrow has occurred. The result of the subtraction ends up in the first operand. Refer to Figure 2.

Chalk it up on my tab

Since adding and subtracting 1 to a register are very common operations in computing, the 80x86 chip has the *INC* and *DEC* instructions. As Figure 3 demonstrates, they take up less code space. They are also marginally quicker. Note that these instructions do not change the *Carry* bit.

The mark of the Beast

Figure 4 shows what happens when subtraction produces a negative value. By going to the bit level you can see that the positive/negative status is not stored within the register or memory location where the value is stored. *See Figure 5.* If you use signed operators then the highest bit in a byte or word will be considered to indicate the sign status of the value. If this bit is set the value is negative. This alters the span of a byte/word. For example, an unsigned word's range changes from 0 - 65,535. The recruitment

```
-A100                       ;From 0200h subtract 82h.
xxxx:0100     MOV AX,200          ;AX=0200h
xxxx:0103     SUB AX,82           ;AX=0200h - 82h
xxxx:0106
-G=100 106
AX=017E       NC                  ;AX=017Eh. No borrow occurres.

-A100                       ;From 10000000h subtract F800h.
xxxx:0100     XOR AX,AX           ;AX=0000h
xxxx:0102     MOV DX,1000         ;DX=1000h
xxxx:0105     MOV BX,F800         ;BX=F800h
xxxx:0108     XOR CX,CX           ;CX=0000h
xxxx:010A     SUB AX,BX           ;AX=0800h
xxxx:010C     SBB DX,CX           ;DX=1000h (- 1h if borrow
occurred)
xxxx:010E                         ;Terminate assembler mode

-G=100  10A                 ;State of registers before subtraction.
AX=0000  BX=F800  CX=0000  DX=1000 NC
xxxx:010A  SUB AX,BX

-T                          ;AX - BX=0800h. A borrow (CY) occurs.
AX=0800  BX=F800  CX=0000  DX=1000 CY ;CY here means borrow.
xxxx:010C  SBB DX,CX

-T  ;1000h - 1h (since a borrow occurred previously) = 0FFFh.
AX=0800  BX=F800  CX=0000  DX=0FFF NC
                            ;Overall result: DX:AX=FFF0800h.
```

Figure 2. DEBUG session demonstrating SUB and SBC instructions.

```
-A100
xxxx:0100     INC CX              ;Takes 1 byte.
xxxx:0101     ADD CX,1            ;Takes 3 bytes.
xxxx:0104
```

Figure 3. Why INC/DEC is better when adding/subtracting 1.

```
-A100
A98:0100      MOV AX,1      ;Ensure that AX=0001h.
xxxx:0103     DEC AX        ;AX=0000h
xxxx:0104     DEC AX        ;AX=FFFFh. Sign is now Negative.
xxxx:0105

-T=100
AX=0001       PL NZ         ;Result is 1h. Sign is Plus.
xxxx:0103     DEC AX

-T
AX=0000       PL ZR         ;Zero flag is set since result is 0.
              ;Zero is included in the positive number sequence.
xxxx:0104     DEC AX

-T
AX=FFFF       NG NZ         ;Result=FFFFh. Sign is negative.

-A100               ;Addition and subtraction with signed nums.
xxxx:0100     MOV AX,100    ;AX=0100h
xxxx:0103     SUB AX,120    ;AX=100h - 120h
xxxx:0106     ADD AX,30
xxxx:0109

-T=100
AX=0100       PL NC         ;Result=100h. Number is positive.
xxxx:0103     SUB AX,0120

-T
AX=FFE0       NG CY         ;Result=FFE0h. Number is negative
                            ;and a borrow has occurred.
xxxx:0106     ADD AX,0030

-T
AX=0010       PL CY         ;Result=10h. Number is positive.
```

Figure 4. Investigating sign behaviour.

```
                1 1 1 1 1 1
Bit             5 4 3 2 1 0 9 8     7 6 5 4 3 2 1 0

      2         0 0 0 0 0 0 0 0     0 0 0 0 0 0 1 0     0002h
      1         0 0 0 0 0 0 0 0     0 0 0 0 0 0 0 1     0001h
      0         0 0 0 0 0 0 0 0     0 0 0 0 0 0 0 0     0000h
     -1         1 1 1 1 1 1 1 1     1 1 1 1 1 1 1 1     FFFFh
     -2         1 1 1 1 1 1 1 1     1 1 1 1 1 1 1 0     FFFEh

  32767         0 1 1 1 1 1 1 1     1 1 1 1 1 1 1 1     7FFFh
  32768         1 0 0 0 0 0 0 0     0 0 0 0 0 0 0 0     8000h

  65534         1 1 1 1 1 1 1 1     1 1 1 1 1 1 1 0     FFFEh
  65535         1 1 1 1 1 1 1 1     1 1 1 1 1 1 1 1     FFFFh

 -32767         1 0 0 0 0 0 0 0     0 0 0 0 0 0 0 1     8001h
 -32768         1 0 0 0 0 0 0 0     0 0 0 0 0 0 0 0     8000h
```

Figure 5. The bit configuration showing values for positive and negative 16-bit numbers. The bits for "-1" are exactly the same as "65,535" and so are "-2" and 65,534". The only difference is whether or not you've treating the highest bit being set as an indication of a negative number.

Task: 9 - 7

```
9 - 7 =
9 + twos comp of 7 (ignore any carry)

                    1
                    2 6 3 1
                    8 4 2 6 8 4 2 1

              7     0 0 0 0 0 1 1 1

twos comp of 7 =
ones comp of 7      1 1 1 1 1 0 0 0
          + 1       0 0 0 0 0 0 0 1
                    -----------------
                    1 1 1 1 1 0 0 1  (249)

Subtraction by
twos comp addition
              9     0 0 0 0 1 0 0 1
         + 249      1 1 1 1 1 0 0 1
                    -----------------
                  1 0 0 0 0 0 0 1 0

  Ignore carry      0 0 0 0 0 0 1 0 (2)
```

Figure 6. Performing a binary subtraction using twos complement addition.

Task: representing -1 as a 16-bit binary value value using twos complement notation

```
-1 =
0 - 1 =
0 + twos complement of 1 =
twos complement of 1

                    1 1 1 1 1 1
              Bit   5 4 3 2 1 0 9 8 7 6 5 4 3 2 1 0

Decimal num = 1     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 (0001h)

twos comp of 1 =
ones comp of 1      1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
          + 1       0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
                    -------------------------------
No carry to ignore  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 (FFFFh)
```

Figure 7. How twos complement can be used to represent a negative value.

of the 16th bit for sign duty alters this range. It becomes -32,768 to 32,767. Examine Figure 5 again.

You can see in Figure 5 that the difference between "1" and "-1" represented in binary notation is more than just the status of the 16th bit. This is because the rest of the word is in "twos complement" notation. This is because, at the very low binary level, the CPU CAN'T SUBTRACT BINARY DIGITS, BUT IT CAN PERFORM THE EQUIVALENT OF A SUBTRACTION BY ADDING THE TWOS COMPLEMENT OF THE NUMBER AND THEN IGNORING ANY CARRY.

Let's consider "tens complement" first. We can generate the tens complement of a number by subtracting it from 10. (As you will see shortly, we can determine this at the binary level without performing a subtraction, but it's handy to think of a subtraction occurring when we're examining tens complement.) So the tens complement of 7 is 3. Say we want to perform "9 - 7". With tens complement this becomes the addition of "9 + 3" which equals "12" but, because we ignore the carry when using tens complement, the result is "2" which is the correct result of the subtraction.

Now we'll look at "9 - 7" represented in binary notation using twos complement addition. *See Figure 6.* To convert a binary number to its two complement we first convert it to its ones complement (just replace every "1" with a "0" and every "0" with a "1") and then add "1". Once we have the twos complement we then add it to the number we're "subtracting" from and ignore any subsequent carry. This is easier to perform if you omit any intermediate decimal representation and just work with binary digits.

Figure 7 shows how twos complement can be used to represent a negative number. We've been ignoring the carry but it does have significance. IF THERE HAS BEEN A CARRY AS A RESULT OF PERFORMING A BINARY SUBTRACTION THEN THE RESULT IS A POSITIVE NUMBER. So there was a carry in Figure 6 because the result was "+2" whereas in Figure 7 there was no carry because the result was "-1".

There is a CPU instruction to perform twos complement negation. Figure 8 shows 70h represented as a negative word. Besides a command for twos complement negation (the *NEG* instruction) there is also a command for ones complement negation (the *NOT* command) but using *NEG AX* is more efficient than the functionally equivalent sequence of *NOT AX* followed by *INC AX*.

It's multiplication

Q. *If you eat 6 packets of Smarties and each packet contains 50 Smarties, how big will your gutsache be?*

```
-A100
xxxx:0100      MOV AX,70
xxxx:0103      NEG AX
xxxx:0105
-G=100 105
AX=FF90        NG

xxxx:0100      MOV AX,-70
xxxx:0103
-RAX
AX FF90
```

Figure 8. Using the NEG *instruction to perform a twos complement negation. Also shown is how* DEBUG*'s assembler performs an automatic two complement conversion when a negative value is specified.*

```
Task: 8 * 5

            3 1
            2 6 8 4 2 1

   8          0 1 0 0 0
 * 5          0 0 1 0 1

              0 1 0 0 0
            0 0 0 0 0
          0 1 0 0 0
          -----------
 = 40     0 1 0 1 0 0 0
```

Figure 9. Multiplication can be performed in binary notation by shifting bits to the left and then adding them.

```
-A100
xxxx:0100      MOV AX,-10
xxxx:0103      MOV BX,20
xxxx:0106      MUL BX
xxxx:0108
-G=100 108
AX=FE00  DX=001F
;DX:AX=001FFE00h (2,096,640)

-A100
xxxx:0100      MOV AX,-10
xxxx:0103      MOV BX,20
xxxx:0106      IMUL BX
xxxx:0108
-G=100 108
AX=FE00  DX=FFFF      NG
;DX:AX=FFFFFE00h (-200)
```

Figure 11. Demonstrating the difference between using a unsigned (MUL) and signed (IMUL) multiplication operator.

Integer multiplication is easily performed in the CPU by shifting bits to the left and then adding them. *See Figure 9.*

Either AX or AL holds one of the numbers to be multiplied. The other number comes from another register or memory location. The size of this 2nd number (byte or word) determines whether AL or whether AX is used. For example if BL is used, then only AL is read. The result of *"MUL BL"* is stored in AX. (You could specify *"MUL AL,BL"* but the shorter, implicit form is usually used.) Multiplying two numbers together usually produces a larger result that either original number so it makes sense to provide a word-sized register to store the result. IF BX provides the 2nd number then AX is used and DX:AX (dword-sized) holds the result. See Figure 10 for examples.

If any of the numbers to be multiplied is negative, then the *IMUL* operator should be used rather than *MUL*. See Figure 11.

```
-A100  ;Multiplying two unsigned bytes together.
xxxx:0100      MOV AH,FF      ;Put a value in AH.
xxxx:0102      MOV AL,7       ;AL=07h
xxxx:0104      MOV BH,FF  ;Put a value in BH.
 ;The values in AH & BH in this example are not used.
 ;They're included here for demonstration purposes.
xxxx:0106      MOV BL,2       ;BL=02h
xxxx:0108      MUL BL ;AX=AL * BL i.e. 000Eh
xxxx:010A
-G=100 10A
AX=000E  ;Result is in AX. Notice that AH is overwritten.

-A100  ;Multiplying two unsigned words together.
xxxx:0100      MOV DX,6666  ;Put some value in DX to
                            ;demonstrate overwriting.
xxxx:0103      MOV AX,2000    ;AX=2000h.
xxxx:0106      MOV BX,7       ;BX=0007h
xxxx:0109      MUL BX         ;DX:AX=AL * BL i.e. 0000E000h
xxxx:010B
-G=100 10B
AX=E000  DX=0000      ;DX:AL=0000E000h
```

Figure 10. Multiplying unsigned values.

Divide and rule

Q. *If 19 students can fit into a Mini Minor how many Mini's would be required to transport 95 students to Gatton for a picnic?*

Figure 12 shows how integer division is performed using binary subtraction. Figure 13 shows which registers are used and Figure 14 gives examples of the use of the unsigned *(DIV)* and signed *(IDIV)* operators.

There are restrictions. You can't divide by zero. Also, the result must be able to fit within the register assigned to hold it. For example, in the first example in Figure 14 the result can only be byte-sized since it must end up in the AL register. If you alter the *"MOV AX,201"* instruction to *"MOV AX,800"*, or greater, you will produce a result that requires a word for its storage. This produces a "Divide overflow" error when run.

```
Task: 21 / 3

            0111    [ 7]
          ------
11 [3] ) 10101    [21]
         00
         --
          101
          011
          ---
          0100
          0011
          ----
          00011
          00011
          -----
              0
```

Figure 12. How a binary divison can be performed by moving bits to the right and then subtracting them.

Musical chairs

In the multiplication example in Figure 9 we shifted bits to the left one position when evaluating the effect of another binary number in the multiplication process. This promotion of a binary number one position to the right is equivalent to multiplying the

Divisor is a	Number to be divided is in	Result is in	Remainder is in
Byte	AX	AL	AH
Word	DX:AX	AX	DX

Figure 13. Table showing location of values involved in dividing by a Byte or a Word.

```
-A100  ;Word / Byte (result must be =< FFh)
xxxx:0100     MOV AX,201          ;(513)
xxxx:0103     MOV BL,8
xxxx:0105     DIV BL              ;AX / BL
xxxx:0107
-G=100 107
AX=0140             ;Result = AL = 40h (64)
                    ;Remainder = AH = 01h


-A100  ;Dword / Word (result must be =< FFFFh)
xxxx:0100     MOV DX,4
xxxx:0103     MOV AX,E203         ;DX:AX=4E203h (320,003)
xxxx:0106     MOV BX,10           ;(16)
xxxx:0109     DIV BX              ;DX:AX / BX
xxxx:010B
-G=100 10B
AX=4E20 DX=0003     ;Result = AX = 4E20h (20,000)
                    ;Remainder = DX = 0003h
```

Figure 14. DEBUG session that demonstrates unsigned division.

```
-A100  ;Shift AX 1 bit to left
       ;Equiv. to unsigned multiply by 2
xxxx:0100     MOV AX,10           ;(16)
xxxx:0103     SHR AX,1
xxxx:0105
-G=100 105
AX=0008

-A100  ;Shift AX 4 bits to the left
       ;Equiv. to multiplying by 2^4 (16)
xxxx:0100     MOV AX,10           ;(16)
xxxx:0103     MOV CL,4
xxxx:0105     SHL AX,CL
xxxx:0107
-G=100 107
AX=0100  ;(256)

-A100  ;Shift AX 1 bit to right
       ;Equiv. to unsigned divide by 2
xxxx:0100     MOV AX,10           ;(16)
xxxx:0103     SHR AX,1
xxxx:0105
-G=100 105
AX=0008

-A100  ;SHR is not suitable
       ;for use with negative numbers.
xxxx:0100     MOV AX,-9
xxxx:0103     SHR AX,1
xxxx:0105
-G=100 105
AX=7FFB       PL  ;(32,763)

-A100  ;Using SAR to preserve sign.
xxxx:0100     MOV AX,-9
xxxx:0103     SAR AX,1
xxxx:0105
-G=100 105
AX=FFFB       NG  ;(-5)
      ;Note negative rounding behaviour of
      ;SAR when number to be shifted is odd.
```

Figure 15. Shifting bits left and right.

number by 2 (just as in decimal notation where adding a zero to the right, and thus shifting the rest of the digits to the left, is equivalent to multiplying the number by 10). Shifting bits to the left is a much quicker way to multiply a number by 2, 4, 8, ... rather then using the *MUL* operator but, as the power-of-two increases, eventually too many shifts will be required to perform the multiplication and it becomes more efficient to use *MUL* again. The maximum shifts allowed on a 286/386/486 is 31. *SAL* (Shift Arithmetic Left) is the same as *SHL* (Shift Left) but *DEBUG*'s assembler only recognises the *SHL* operator.

Similarly, shifting bits to the right is equivalent to dividing by a power of 2. But *SAR* is not exactly the same as *SHR*. SAR performs a signed divide (the highest bit is unchanged) whereas *SHL* performs a unsigned divide (the highest bit is zeroed).

When using the shift operators with a 8086 CPU, or with whatever processor if using *DEBUG*'s limited assembler, only "1" can be directly specified as the number of shifts to perform e.g. "*SHL AX,1*" multiplies AX by 2. To specify a greater power-of-two you must use the CL register e.g. "*MOV CL,4*" then "*SHL AX,CL*". This multiplies AX by 16 (2^4). With a full-fledged assembler and a 286 or better you can directly specify "*SHL AX,4*". Figure 15 illustrates these points.

Beside *Shifts*, there are also *Rotates*. *ROL* and *ROR* rotate bits left and right, in a circular fashion e.g. in "*ROR AX,1*" the highest bit becomes the second-highest bit and the lowest bit ends up as the highest bit. *Rotates* are handy for altering the alignment of the bits in a binary number. The same comments about using the CL register that were previously mentioned in the shift section apply with rotates. Figure 16 provides examples.

A different form of rotate is *RCL* and *RCR* which adds the carry bit as a new position in the circular movement ring between the lowest and highest bits. It usage will not be considered further here.

Don't look. Jump!

Last month we looked at conditional jumps such as *JA (Jump if Above)*. What wasn't mentioned there is that the target of a conditional jump must be within 128 bytes before or 127 bytes after the current location. Unconditional jumps don't suffer from this limitation, so if a conditional jump needs to end up more than 128 bytes away it is possible to conditionally jump to a nearby "jump island" and then, from there, perform an unconditional jump to the required location. Unconditional jumps come in 3 sizes:

Short - location within 128 bytes before or 127 bytes after;

Near - within the same segment i.e. within 64 Kb;

Far - to another segment:offset.

The size of the opcode varies due to the extra address

information. The short jump's location can be expressed in 1 byte; the near jump's location is 1 word sized; the far jump uses a double-word for its location. *DEBUG* automatically determines the correct type of unconditional jump to do. Some of the full-fledged assemblers (due to their flexibility and speed) can't do this, so for optimum performance, the user may need to specify the type to use. See Figure 17.

You will commonly find an unconditional short or near jump at the beginning of many *COM* programs. This is because many *COM* programs have a data section at the front. If you perform the unassemble mentioned in the second part of Figure 17 you'll see how confused *DEBUG*'s disassembly is. *DEBUG* can't tell the difference between data and opcodes that use the same machine language for their representation. If you gave *DEBUG* the opportunity to execute through this section, its execution would be as just as confused as its unassembly and you would face the likely possibility of a lockup. By jumping around this section, execution can proceed to more code, which at some later stage can read from or write to the data section.

In the second example in Figure 17 you see how data can be directly entered using the *DB (Data Byte)* opcode. At offset 112h the three bytes are entered as 01h, 02h, 33h. 33h is the ASCII code value for the numeral "3". *DEBUG* also allows the use of the *DW (Data Word)* opcode. These 3 entries at offset 112h would then be the 3 words (6 bytes): 0001h, 0002h, 0033h.

Going loopy

Conditional jumps can be used to terminate a program loop that keeps repeating some sequence of operation until a condition is met. Examine the example in Figure 18. It uses the "display a beep" method from last month, but in a different context. The second part of Figure 18 simplifies further by looping directly back to the *INT 10* instruction. Although faster, it may be hard to detect this, since the speed of the *INT 10* call is bottleneck here.

The third part of Figure 18 uses the *LOOP* operator. This combines the functionality of "*DEC CX*" (CX is often used this way) and "*JNZ Start_of_loop*" in one instruction.

Variations on *LOOP* are *LOOPE/LOOPZ* and *LOOPNE/LOOPNZ* (alternate mnemonics included). As well as breaking out of the loop when CX reaches 0, as the standard *LOOP* does, they also respond to the status of the Zero flag.

Say you want an user input routine to a hexidecimal-to-decimal number converter. You've instructed the user to enter up to a word (4 hex digits). You allow up to 4 digits (FFFFh) but you could get just 1 digit (e.g. 7h) or none at all. Figure 19 shows

```
-A100  ;Rotating through 4 positions (1 nibble).
xxxx:0100      MOV AX,1234
xxxx:0103      MOV CL,4
xxxx:0105      ROR AX,CL
xxxx:0107
-G=100 107
AX=4123

-A100  ;Rotating through 8 positions.
       ;This effectively exchanges AH and AL.
xxxx:0100      MOV AX,1234
xxxx:0103      MOV CL,8
xxxx:0105      ROR AX,CL
xxxx:0107
-G=100 107
AX=3412

-A100  ;A better method of exchanging two registers.
xxxx:0100      MOV AX,1234
xxxx:0103       XCHG AH,AL
xxxx:0105
-G=100 105
AX=3412
```

Figure 16. Rotating bits and exchanging registers.

```
-A100
xxxx:0100      JMP 120         ;JMP SHORT is 2 bytes in size.
xxxx:0102      JMP 300         ;JMP NEAR is 3 bytes in size.
xxxx:0105      JMP 1234:0      ;JUMP FAR is 5 bytes in size.
xxxx:010A

-A100
xxxx:0100      JMP 123         ;Short jump around data section
xxxx:0102      DB "This is a string"
xxxx:0112      DB 1, 2, "3", "Another string"
xxxx:0123
-D100 L23  ;Dump the above to examine data storage.
       ;Not shown to save space.
-U100 L23      ;Unassemble the above to illustrate the
               ;problem of DEBUG misinterpreting data as code.
       ;Not shown to save space.
```

Figure 17. DEBUG automatically uses the correct type of unconditional jump. Also shown is the use of the DB" opcode to enter data within the program's code.

```
-A100  ;Generate 255 beeps
xxxx:0100      MOV CX,FF       ;Number of iterations
xxxx:0103      MOV AX,E07      ;AH=0Eh. Function 0Eh.
                               ;AL=07h which is the ASCII BEL char.
xxxx:0106      INT 10          ;BIOS Int 10, Function 0Eh.
                               ;Display char in AL to screen.
xxxx:0108      DEC CX          ;One less beep to produce.
xxxx:0109      JNZ 103         ;If CX isn't zero yet, repeat.
xxxx:010B
-G=100 10B
AX=0E07        ;AH still contains 0Eh and AL still
               ;contains 07h so this int doesn't clear these
               ;registers after execution. Simplify further.

-A109  ;This will be a little faster.
xxxx:0109      JNZ 106
xxxx:010B
-G=100 10B

-A108  ;Use the LOOP operator instead to replace
       ;two instructions.
xxxx:0108      LOOP 106
xxxx:010A
-G=100 10A  ;One byte smaller.
```

Figure 18. A loop to produce 255 beeps.

```
-A100
xxxx:0100     JMP 106        ;Bypass data section
xxxx:0102     DB 0,0,0,0     ;4 placeholder bytes
                             ;where keyboard input will be stored.
xxxx:0107     MOV CX,4       ;Max of 4 chars.
xxxx:0109     MOV BX,102     ;Where data area starts.
xxxx:010C     XOR DX,DX      ;DX=00h
xxxx:010E     MOV AH,1       ;Function 01h
xxxx:0110     INT 21         ;DOS Int 21h, Func 01h
                             ;Char input with echo. Char put in AL.
xxxx:0112     MOV [BX],AL    ;Copy char to data buffer.
xxxx:0114     INC BX         ;Position for next char.
xxxx:0115     INC DX         ;Count of chars inputted.
xxxx:0116     CMP AL,D       ;Was Carriage Return pressed?
xxxx:0118     LOOPNE 110     ;Repeat if 4 chars have not been
                             ;input yet or Enter was not pressed.
xxxx:011A
-G=100 11A
1                            ;Type in "1" then press Enter
BX=0104  DX=0002             ;Count is 2 because of CR.

-G=100 11A
1234                         ;Type in "1234". No need for Enter.
BX=0106  DX=0004             ;Count is 4. No Carriage Return.

-D102 L4
xxxx:0102  31 32 33 34       ;Hex chars for "1234".
```

Figure 19. Routine to accept up to four input characters

```
      DEBUG < GETNUMS.SCR

A100
JMP 110              ;Bypass data area. Jump to "MOV CX,4".
DB 0D,0A,0D,0A       ;Two CR/LF newline combinations.
DB 0,0,0,0,0D,0A     ;Space for up to 4 chars + newline
DB 0,0D,0A,"$"       ;Space for 1 count char + newline +
                     ;string termination char.
MOV CX,4             ;Up to 4 chars can be inputted.
MOV BX,106           ;Offset to start of 4 placeholder bytes.
XOR DX,DX            ;DX=0000h. Used to count chars.
MOV AH,1             ;Function 01h
INT 21               ;Int 21h, func 01h. Put input char in AL.
CMP AL,D             ;Is char a CR?
JE 126               ;If CR, end input, jump to "ADD DX,30".
MOV [BX],AL          ;Copy char in data input buffer.
INC BX               ;Increment location where next char goes.
INC DX               ;Increment count of chars.
LOOP 11A             ;Jump back to "INT 21" for another char.
ADD DX,30            ;add 30h to count to make it an ASCII
                     ;char e.g. "0" = 30h, "1" = 31h, etc.
MOV [10C],DX         ;Copy ASCII count char to count buffer.
MOV DX,102           ;Use DX to point to start of display.
MOV AH,9             ;Int 21, func 09h. Display string.
INT 21               ;DS:DX -> Start of string. End ="$" char.
MOV AX,4C02          ;Int 21, func 4Ch. Terminate program with
INT 21               ;errorlevel. Errorlevel of 2 is placed in
                     ;AL to be communicated to outside world.
                     ;Leave a blank line here to end
                     :assembler mode.

RCX            ;Bring up what's in the CX register
39             ;and set it to 39h. This is program's size.

N GETNUMS.COM ;Name for file for DEBUG to load/write.
W100          ;Write contents of memory, starting from 100h
              ;up to 137h, to GETNUMS.COM on current drive.
Q             ;Quit. Ensure that you press Enter after "Q"
              ;when you create scriptfile or DEBUG may hang.
```

Figure 20. Scriptfile to create GETNUMS.COM. Use the method shown at the top to run the scriptfile. Include no comments. Only blank lines should be the one before the "RCX" line. Use "DEBUG < GETNUMS.SCR > PRN" if you want to get a printout that shows memory offsets.

one possible way of doing this. *Int 21h*, Function 01h sits and waits for input. When you enter something it is placed in AL. It is also echoed to the screen. This interrupt does not clear AH so you can loop directly back to offset 110h.

Once four characters are typed this routine will terminate. The user can enter less than four characters by pressing *Enter* after the last character. Say they type 3 characters and press *Enter.* As this routine stands you end up with four bytes since the *Carriage Return* character (0Dh) is included. If they type 4 characters you still end up with 4 bytes (no CR was included).

Figure 20 is a redesigned version that avoids this. It demonstrates the use of Int 21h, Function 4Ch to terminate a running program and return an errorlevel code that is placed in AL beforehand. To see this in action, after running *GETNUMS.COM*, immediately issue at the command line: *"IF ERRORLEVEL 2 CLS"*. Note, "*IF ERRORLEVEL 1 CLS*" works also because errorlevel matching is greater than or equal to. Specifying errorlevel 3 won't clear the screen.

Figure 20 also uses *Int 21h, Function 09h* to display a string, the end of which is determined by the occurrence of a *"$"* character. The display is used to show what's in the program's input data buffer and the number of characters entered. Even though the output here is not that interesting, this method could be used to display the value of any register or memory location in a running program.

Conclusion

We've again covered a lot of ground. Sometime in the future I'd like to make good use of arithmetic operations in an article that describes how the boot sector works. It has to determine where *IO.SYS* is located so it can load it. The boot sector's code does this by using a fair bit of maths. ○

Next month

Partition Table Display

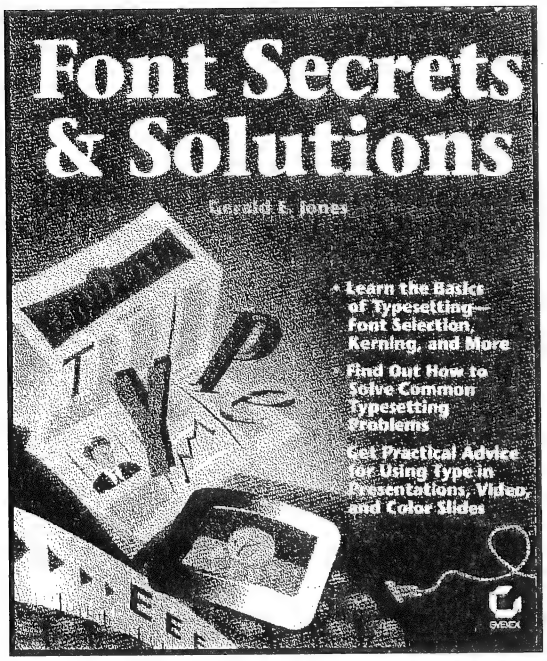
Hex-to-Dec Conversion

Next month we'll continue with the partition-table display program. If there's room we'll also look at hex-to-dec and dec-to-hex conversion programs.

Windows Watch

An Occasional Column, compiled by Ralph De Vries

Two Windows Books



This is a strange book, as the title is rather deceptive. To all intents and purposes it's a 'how to' book, using *Word, Excel, CorelDraw, Harvard Graphics*, as well as two lesser known Windows programs, *WinSign* and *Fontographer*. Too bad if you use another wordprocessor, or spreadsheet; they aren't covered.

Yet the book contains useful information about fonts, kerning, layout, etc., but I feel that the above information can be obtained elsewhere, and in considerably more detail.

As an example, there are a few useful CorelDraw hints and tips in several chapters, which may be hard to find in CorelDraw's manual (not my favourite manual, by the way), but there are literally dozens of CorelDraw books on sale which offer far more detailed information on how to get the best out of this program.

If fonts and font design are your main interest, you can find some highly specialised books in the computer book shops and, if you want to know more about layout and page design, there are lots of good books out there as well. Two books which I can thoroughly recommend are *Looking good in Print* and *Newsletters from the Desktop*, both by Roger C Parker (Ventana Press).

Alternatively there are quite a few books in the computer bookshops which show you how to get the best out of specific desktop publishing programs, such as the following book review of Microsoft's *Publisher*.

Where does that leave *Font Secrets and Solutions*? Should you own two or more of the programs covered in this book, it may be worth your while investing in this volume ($45.00 RRP). However, if you don't own the programs in question, I'd suggest you look elsewhere.

If you have followed this column for some time, you know that I am rather a fan of Microsoft's *Publisher (V.2.0)*, because the program offers such excellent value for money. The program comes with quite a good manual, yet the new book *Microsoft Publisher by Design* by Luisa Simone, and published by Microsoft Press ($45.00 RRP), is a useful adjunct to the manual, particularly if you are a newcomer to the wonderful world of desktop publishing.

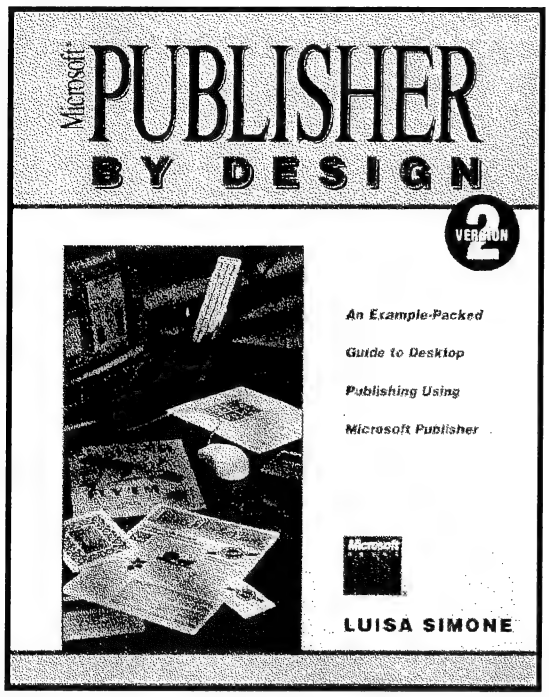
I would like to quote from the book's introduction the following lines:

"This book goes beyond the manual by providing explanations of essential desktop publishing concepts, teaching fundamental skills, and elucidating elements the elements of good design.

The book also contains 8 design projects that teaches you about Publisher's tools within the context of a typical home and small business environment."

The early chapters cover the basic operations of Publisher, and the following chapters are devoted on how to get the best out of the Layout, Text, WordArt, Table, Drawing and Picture Tools. Practically in each chapter you will find useful hints and tips, which are probably in the manual as

well, but are here presented in a more obvious and useful format. There's even a chapter devoted to PageWizards and Templates.



In the second half of the book, the emphasis is on design. In order of difficulty you learn to design a Logo, a Business Form, a Letterhead, an Advertisement, an Organisation Chart, a Mail Order Catalogue, a Three-Fold Brochure Template, and a Newsletter.

The last part of the book is all about how to optimise Publisher for speedier results.

As the book also covers less obvious points, such as the scanning in of an image (useful if you own a scanner, that is!), it must becomes obvious that I am quite impressed with this volume. *Publisher* owners will find this book a useful addition to the manual. I sincerely hope that the good people at Microsoft Press read and learn all about *Publisher* as well, as, according to the information supplied on Page 451, *Ventura Publisher* was used to produce this book!

P.D. & Shareware Software

(as found in the pages of *Windows Magazine*,2/94)

Above & Beyond 3.0 This PIM (personal information manager) includes a pop-up calendar that lets you view a week or month at a glance, a contact database and attachable notes. If you're connected to a LAN, you can even use Above & Beyond to arrange meetings and track the status of other users' tasks.

Folders 4.0a Expand your Program Manager groups with Folders. Each folder becomes a separate group that can hold any type of file or even more folders. The utility also lets you cross link, drag and drop, associate, set passwords and quick execute any of your last twelve commands.

PixFolio 2.0.98 Get a grip on your graphics. This utility lets you build image catalogs, even of images from different disks. You can display catalogs as thumbnails and convert to and from .BMP, .CGM, .CLP, .DRW, .FLC,. FLI, .GIF,.JPG, .IFF, .IMG, .MAC, .PCX, PICT, .TIF. .TGA. .WMF and .WPG file formats.

PrintSwitch 2.0 Now you can change your default printer with just one click. PrintSwitch configures itself for your system am displays all installed printers; you can place PrintSwitch anywhere on your screen. The utility also gives you quick access to Printer Setup and Print Manager settings.

SysRes 2.5 With SysRes, you can monitor your system resources at a glance. The application provides graphical and text displays of your resources, which you can view two ways: CPU Usage or CPU Free. And you can scale SysRes' 3D graph for a quick view of how hard you're taxing your CPU.

TextManager 2.0 Replace your current text editor with TextManager and you'll get drag-and-drop support, a toolbar and a built-in menu for editing Windows system files. TextManager works with .TXT, .INI, .BAT and .C files; you can edit files using any font installed in Windows.

Visual Help 2.0e You don't need to be a programmer to create professional-quality help files. Visual Help is an authoring tool that provides full WYSIWYG editing and runtime testing, and supports drag-and-drop, bitmaps and sound files. This program requires Microsoft Windows Help Compiler 3.1 or higher

WinEZ 3.1b WinEZ makes Task Manager obsolete. Not only does this utility quickly switch between open applications, it also launches and closes all your apps, without requiring you to be in Program Manager. The Task Switch icon lists all open apps; the Fast Path icon shows all your program groups and items.

WinZip 5.0 Built-in zipping is just one of the new features you'll find in the latest version of WinZip. This popular archive manager also provides improved support for Windows-based virus scanners and allows you to open multiple WinZip windows for simultaneous zipping and unzipping.

Ralph

BUGS: to fix or not to fix

by Ralph De Vries

The article in last month's Significant Bits by Mic Collis (*To Upgrade or not to Upgrade* - page 56) raises some interesting questions which need to be addressed by us in the interest of our own members.

I am referring here specifically to the question of *minor* upgrades / updates, which are normally called bug-fixes or maintenace releases by the manufacturers or wholesalers; this in contrast to *major* upgrades which are usually announced with a lot of fanfare, and which normally cost big bikkies.

The attitude of virtually all software manufacturers is basically a simple one, and can be summed up in one sentence:

"If they don't yell, don't tell"

Which really means that, if there's a new bug-fix or maintenance release available for program 'XYZ', we don't tell them, but we wait till they scream, and then, and only then, will we do something about it.

Imagine that the mythical program 'XYZ' is a word processor... It just so happens that you have recently upgraded to the latest version of this great word processor, but it has a major bug in it...it won't print *italics*. Are you still with me? As you never use italics you are totally unaware of this problem, and you don't bother the poor old manufacturer, because, after all their attitude is quite simply: *"what you don't know does not hurt you"*. No doubt, if you happen to use italics, your cry of help will probably be answered, and the bug-fix should be on the way to you — end of story.

Another example - your 'XYZ' word processor has net working problems, but you use it on a stand-alone computer; hence you are totally unaware of these networking problems. Now, if there's a 'fix' for this problem, it's a bit academic if you really need this bug fix, or is it?

The simple solution to the problem would be for the manufacturers / distributors to send out copies of these bug fixes to **all registered users**, but their argument against this is costs and profits, so where does that leave you, the enduser?

To put it bluntly, 'up s... creek'. The real problem is the nature of program bugs. You see, the majority are not as simple as our italics example above. If, for example, your copy of word processor 'XYZ' keeps on locking up without any apparent reason, you may think that it's a hardware related problem, and not even bother the software manufacturer with your particular problem.

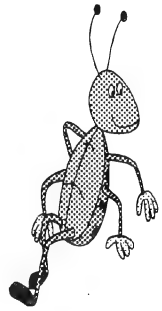
It's my contention that quite a few bugs are in this last category, i.e. it's difficult to pin point the exact cause of the problem. And this is where the manufacturers argument of *'if they don't yell, don't tell'* collapses. **A lot of users simply don't bother to yell, but give up on the product in question, and look for a substitute elsewhere**. The user is unhappy, and the manufacturer should be unhappy as well, as he has lost a customer.

The ideal solution would be for software manufacturers to advise their registered users of any bug fixes and *which problems they do fix up*. The user can then decide if she/he wants to order the 'bug fix' in question.

However, as this is very unlikely to happen, Brisbug (and other PC user groups) should have a monthly column which lists software bug fixes or maintenance releases, and (if possible) which problems will be solved by these bug fixes. You, as owner of the software in question should then decide if it's worth your while ordering the bug fix.

It stands to reason that such a column can only work if you, as owner of the 'buggy' software, submit to *Significant Bits* the bug fix(es) which you have received and/or have been informed about. With prompt and regular submissions we may be able to save our fellow members time, money and a lot of frustration.

BUG!



BUG!

BUG!

Presenting REXX

Paul Marwick

REXX... is a programming language...

powerful and flexible...

has a number of extensions

Well, its been delayed a couple of times so far, but this time we're going to at least get started on an examination of REXX.

First, what is REXX?

REXX is a programming language, designed by Michael Cowlishaw of the IBM UK Laboratories. It was designed to be a procedural language that allows programs and algorithms to be written in a clear and structured way (I'm paraphrasing the author's own words here, so you'll have to make your own judgements about how clear and structured a language it is..).

There are implementations of REXX available for a number of different platforms. IBM mainframe operating systems have REXX available to them, as do a number of versions of Unix. The Amiga operating system has had AREXX available for quite some time. In addition, there are REXX implementations for DOS. Some of these implementations are commercial packages (for instance, Personal REXX for both DOS and OS/2 are commercial packages), while others are freeware.

The REXX implementation shipped with OS/2 is an interpreter. That is, REXX programs are stored in source form, and are read and executed at runtime by the REXX interpreter. REXX is basically a text-mode application, though there are a number of graphic extensions to it now available. In addition, there is at least one REXX compiler, which allows REXX procedures to be compiled into binary format.

Interpreted languages have both advantages and disadvantages. One major advantage is that there is no need to compile your programs. When changes are made, it is simple to run the program and test the changes, without having to wait through a compilation stage, find that there is a problem, and start all over again.

Disadvantages include the fact that, since the source code must be read and then interpreted at runtime, programs may be slower to execute than would be the case with a compiled language. In addition, it is easy for others to both see what you have done and to alter your source code.

REXX was designed specifically to be able to act as a macro language for other applications as well as a general procedural language. This is done by allowing REXX to work in different environments, and being able to detect what environment it is operating in (so it can be made aware that it is operating as the child process of another application, and pass commands that are specific to that application back to the application).

This approach has a number of advantages. The author of an application does not have to write all the functions of a macro language, since many of them can be handled by REXX. This should allow most developers to cut development time. An API (Application Programming Interface) is provided which makes it easy for application developers to integrate calls to REXX within their programs.

In addition, this approach is beneficial for end users as well, since they will be able to learn a single macro language and use it in multiple applications. There should no longer be a need to learn a different macro language for every package that you use.

These capabilities of REXX are already exploited by a number of applications. For instance, the *Enhanced Editor* provided with OS/2 uses REXX as its macro language. As does the registered version of the *TE/2* terminal program. Mark Hessling's *THE* editor is also REXX aware, and uses REXX as its macro language. There are certainly other similar applications available. Hopefully this development trend will continue. It will certainly make life easier for end users if it does.

REXX is a powerful and flexible language. It has a number of functions which allow it to manipulate strings. It can set and manipulate variables and arrays. It is also essentially 'typeless' in its handling of strings - in other words, there is no need to declare a type for any variable or array. It can perform arithmetic operations, comparisons using all the normal logical operators and it can concatenate strings.

As well as these abilities, REXX has a number of extensions. When these are loaded, they allow for things like the manipulation of OS/2 Work Place Shell objects, and the handling of named pipes and queues. These last functions make REXX very good in handling interprocess communications between multiple sessions.

Extensions to REXX can also be added by other programmers. REXX is therefore an extensible language. There are a number of examples of third-party add-ons for REXX. For instance, there is an extension which will allow REXX to manipulate dBASE database files, and another which gives REXX extra abilities in working in a LAN environment.

This has been a very brief introduction to the power of REXX. Hopefully enough to whet your appetite to start making use of that power...

With all the features outlined above, what can REXX be used for? Just about anything is the answer to that question. Its uses can range from enhancing the power of an OS/2 batch file through to building complex applications, with many stops inbetween. By providing REXX with OS/2, IBM has provided OS/2 users with an extremely powerful tool.

For the moment, we're going to look at some very simple examples, which can be used to enhance normal batch file processing. We will (hopefully at least) move on to more complex uses of REXX as this series progresses.

Elements of REXX procedures

There are a number of elements which make up REXX procedures. These can include comments, strings, instructions, assignments, labels and OS/2 commands. REXX is also able to use repetetive or conditional loops. First we'll look at comments.

Comments

Comments are vital to any OS/2 REXX procedure. Apart from their normal value in any programming (to offer explanation of what the code is supposed to do), comments are vital to REXX, since an opening comment is used as a signal to OS/2 that the following code should be passed to the REXX interpreter for execution.

In REXX, a comment is opened by *"/*"* and closed by *" */"*. Every REXX procedure must start with a comment, even if it is an empty one. That comment must start at the first position of the first line of the procedure. Without it, all you'll get back are error messages... In REXX, comments can span multiple lines, but cannot be nested.

Next, we'll look at how REXX produces screen output. The *SAY* command is used to produce output to the screen. With these two elements, we have the basis for a very simple REXX program (bet you thought we'd never get there...).

```
/* Silly little REXX procedure (SLR.CMD) */
   Say "Hello World!"
   exit
```

Figure 1.

If we use a text editor and enter the lines from figure 1, saving it to a file with an extension of .CMD, we have our first REXX program. Wonderful, just what I always wanted, something to say something inane like "Hullo World". Still, it is the traditional first attempt at programming in any language, so I guess we'd better try that one. If you want to try it, create it (call it something like SLR.CMD) and run it.

One element that hasn't been mentioned so far is the "exit" command at the end of the file. This one tells REXX that all commands have been completed and tells it to pass control back to the operating system. In something as simple as this example, its not really necessary, but it is good practice to use exit commands to ensure that procedures are properly terminated.

As well as being able to produce screen output, REXX has the ability to collect keyboard input data, which can then be assigned to variables. This is the "PULL" command.

We'll use a variation of our original procedure to illustrate the basic elements of the *PULL* instruction:

```
/* Silly little REXX procedure v1.1 (SLR1.CMD) */
   Say 'What is your name?'
   pull who
   say 'Hullo' who' I hope you are having fun'
   exit
```

(Figure 2)

This version will prompt you for a name, assign the information you enter to the variable 'who' and then use that variable in sending a message back to the screen. You will notice that PULL converts all input to upper case when it assigns it to the 'who' variable.

If you simply press *enter* when prompted for your name, the procedure completes, leaving a blank where the name should appear. So we can add another element to the procedure, to check for valid entry (well, for *some* entry rather than the validity of that entry):

```
/* Silly little REXX procedure v1.2 SLR2.CMD */
   say 'What is your name?'
   pull who
   if who = " " then call noentry
   say 'Hullo' who' I hope you are having fun'
   exit
```

(Figure 3)

In this instance, we've used one comparison operator to check the contents of the 'who' variable.

If the variable is empty, we then branch to a procedure which handles the lack of input. To do so, we use the *'CALL'* command.

Another way of checking the *'who'* variable would be to use the *LENGTH()* command. So, instead of using *'if who = "" '* , we could have used *'if length(who) = 0 then call noentry'*.

This also illustrates basic flow control in a REXX program. If the comparison test is true, we use the *CALL* command to jump to a secondary procedure. We could also have used the *SIGNAL* command, but since this command is intended mainly for error handling, it is better programming practice to use *CALL*.

There is one further variation to our current, somewhat useless little program. As mentioned earlier, the *PULL* command converts all keyboard input to upper case before assigning it to a variable. Which means that all output derived from the *'who'* variable will also be upper case. If we want to preserve the case that was used to input the data, we need to use a different command - the *PARSE PULL* command.

In this instance, the procedure is changed as in Figure 4

```
/* Silly little REXX procedure v1.3 (SLR3.CMD) */
    say 'What is your name?'
    parse pull who
    if who = " " then call noentry
    say 'Hullo' who' I hope you are having fun'
    exit
```

(Figure 4)

Before finishing this initial examination of using REXX, I'd like to present a couple of other routines. So far, while we may be able to see the workings of some simple REXX procedures, we haven't done much that's of any use to anyone. So I will show two small ways in which basic REXX can be put to practical use. Both of these are intended to enhance normal batch file processing, and both can be made use of immediately.

The first example stems from the fact that I spend a lot of time working from the command line. As a result, I often want to get from one place to another quickly. And I'm much too lazy to type *'cd\ <return>' 'D:<return>' 'cd\somewhere<return>'* to get from place to place. In the days when I used *4DOS*, I had a simple alias defined which would do all of those in sequence as a single command, meaning that I could enter something like *'j e:\max'* from anywhere on the system, and be taken directly to the Max subdirectory on my E: drive.

While I could now use *4OS2* and define a similar alias, I have a number of reasons for not wanting to use *4OS2* (at least not until the authors fix a few outstanding bugs). But I'm still too lazy to type three commands when I can do the same work with one. So, I looked at creating something which would do the same job using REXX. It wasn't terribly hard to do (See Figure 5, opposite)

This is a very simple routine. It has no error checking whatever. As a result, any error in entering a drive and directory will result in you ending up in the root directory of whatever drive you started from. I will demonstrate adding error handling to this routine in a later article. For the moment, if you want to try it, enter the text from figure 5 and try it for yourself.

This routine also illustrates another aspect of REXX usage. That is REXX's ability to pass control to other programs. In this instance, we are using it to execute a command that is an internal part of *CMD.EXE* (the OS/2 command shell). We could probably get away without using the " quotes around the command, but using them serves to avoid any possible confusion with a REXX command or procedure, and also makes it easier to follow what is being done in the procedure. In the same way, I've used quotes around literal strings that will be sent by the *SAY* command, for much the same reason.

The second example is derived from something I need for processing on the BBS systems. I use a number of environmental variables in this processing. One of them is an abbreviation for the day of the week. This can then be read back from the environment using the standard *'%variable%'* batch file syntax and used to control branching of the batch files depending on the day of the week.

Under DOS, I used a utility called *WEEKDAY*, which would exit with an errorlevel set by the day of the week. It was then reasonably easy to trap the errorlevel returned and use it to set the 'DAY' variable to the day of the week.

Under OS/2, I found a utility which does similar things, and used it. The batch file used is illustrated in figure 6 (opposite)

When I started looking at using REXX, it struck me that I should be able to do the same thing much more simply with REXX. I've now found several ways to use REXX to achieve the same result. The first of these is illustrated in Figure 7 (below).

```
/* Set the day of the week into the OS/2 environment (DSET.CMD) */
    day = date("W")
    nday = substr(day,1,3)
    'set day='nday
    'echo Day now set to %day%'
```

Figure 7.

This is one way. First, we use the *DATE()* function (with the *"W"* modifier) to return the weekday in the form *"Tuesday"*. This is assigned to the *'day'* variable in the procedure. Then we use the *SUBSTR()* function to derive a three character abbreviation of the *'day'* variable, and assign that to the 'nday' variable. Next, we pass a command to OS/2 *('set day=')* and append the *'nday'* variable to it. Finally (since I'm paranoid), we pass another command to OS/2 which reads back what has been set in the *DAY* environment variable.

The second version of this procedure is identical in terms of how it derives the required information and converts it to the form that I want. It differs only in the method used to place the variable into the OS/2 environment (Figure 8)

In this instance, we've used a variation on the *SAY* command. combined with the *VALUE()* function to place the needed string into the environment. We've also used *SAY* to echo the new value in the environment to the screen (I'd probably continue using the first method for this, since that gives me a cross-check to see that the correct string really has been placed into the environment where other processes can make use of it).

As you can see, either of these procedures is a lot simpler than the batch file method. Not to mention that the batch file requires a utility program which occupies around 20K of disk space to be usable.

I've found yet another way of accomplishing the same result, using the *SELECT* command. However, this seems like the least efficient way of doing this job, so I'll save *SELECT* for other things.

One other item that deserves consideration is a special feature of OS/2 REXX. I mentioned at the beginning of this article that interpreted languages usually suffer a penalty in terms of speed of execution compared to compiled languages. In the case of REXX, that penalty is at least partially mitigated by the way in which a *REXX .CMD* file is stored. Once it has been run, it is given a 'tokenised' image, which is stored in the OS/2 extended attributes for the file. This means that it will run significantly faster the second (and subsequent) time it is run. If changes are made to the file, the tokenised version stored in the extended attributes will be rewritten. An idea of this effect can be gained by looking at the directory listing for a REXX file, as shown in figure 9 *(overleaf)*.

```
/* Quick'N Dirty Drive/Directory jump routine (J.CMD)     */
/* Fist, collect the destination entered by the user, and place it in     */
/* the 'cmdline' variable      */
        parse arg cmdline
/* Next, since I alwasy want to ensure that I have not left a default    */
/* path behind me, pass a command to OS/2 to change to the root directory */
/* of whatever drive I start from. Use @ to eliminate echo to the screen */
        '@cd\'
/* Next, test for arguments entered by testing the length of the string  */
/* in the 'cmdline' variable. If this is empty, exit the procedure.      */
/* This gives me a quick way of getting back to the root directory (told  */
/* you I was lazy...)    */
        if length(cmdline)=0 then exit
/* If the initial test indicates user data is present in the 'cmdline'     */
/* variable, send REXX the command to change to the directory specified,  */
/* using the REXX function DIRECTORY()  */
        call directory(cmdline)
```

Figure 5

```
        @echo off
REM - Use MK's DELAY utility to return an errorlevel for
REM -the day of the week, then place a string in the what day
REM - environment to identifyit is.
        delay 1 w
        if errorlevel 7 set day=Sat
        if errorlevel 6 set day=Fri
        if errorlevel 5 set day=Thu
        if errorlevel 4 set day=Wed
        if errorlevel 3 set day=Tue
        if errorlevel 2 set day=Mon
        if errorlevel 1 set day=Sun
        echo.
        echo.
        echo.
        echo.
        echo Day is now set to %day%
        echo.
```

Figure 6 - DSET.CMD

```
/* Set the day of the week into the OS/2 environment - version 2 */
        day = date("W")
        nday = substr(day,1,3)
        say value('day',nday,'os2environment')
        say 'Day is now set to' nday
```

Figure 8. Set the day of the week into the os/2 environment

```
Directory of D:\rx

28-04-94        0:58      265        0 samp.cmd
        1 file(s)  265 bytes used

Directory of D:\rx

28-04-94        0:58      265      667 samp.cmd
        1 file(s)  265 bytes used
```

Figure 9. The file status of the two REXX procedures

The first listing is a freshly created REXX procedure, which has not been executed. The second is the same file, but after it has been executed.

As can be seen, the freshly edited file has no extended attributes associated with it, while the second has aquired 667 bytes of extended attributes. While this may seem a bit wasteful of hard drive space, it does make for much faster execution the second time round.

This use of extended attributes also imposes a limitation on the size of an individual REXX program. Under current versions of OS/2, extended attributes are limited to a maximum of 64K. Which places a limit somewhat below that on the maximum size of a REXX program. However, that gives plenty of scope for complex programs, and if you do come close to that limit, it should not be a problem to split the program into a couple of different files.

Next Month

Next time we'll look at using loops in REXX, and arithmetic functions. We'll also look at *TRACE* and how it can be used to aid in debugging REXX progams.

OS/2 provides a very good online reference manual for REXX. Like most such manuals, it suffers from the fact that it is a reference manual, not a general guide. As a result, it won't teach you to program in REXX, but it will give you all the information you need regarding the various functions that REXX has, with plenty of examples of use. In addition, there is another online guide available *(SAAREXX.INF)*, also in OS/2 hypertext format. This guide does not have as much detailed information in it, but does discuss a number of functions in greater detail, as well as providing a cross-platform compatibility chart, which could be very useful if you are likely to be using REXX in one of its other implementations.

In addition to these sources, below is a partial bibliography of printed sources for REXX information.

REXX Bibliography

The REXX Language — M.F. Cowlishaw English: ISBN 0-13-780735-X Prentice-Hall, 1985 ISBN 0-13-780651-5 2nd edition, 1990

Modern Programming Using REXX — Robert P. O'Hara and David R. Gomberg English: ISBN 0-13-597311-2 Prentice-Hall, 1985 ISBN 0-13-579329-5 2nd edition, 1988

REXX in the TSO Environment — Gabriel F. Gargiulo ISBN 0-89435-354-3, QED Information Systems Inc. 320 pages, 1990

Practical Usage of REXX — Anthony S. Rudd ISBN 0-13-682790-X, Ellis Horwood (Simon & Schuster), 1990

Using ARexx on the Amiga — Chris Zamara and Nick Sullivan ISBN 1-55755-114-6, Abacus Books, 1991

The REXX Handbook — Edited by Gabe Goldberg and Phil Smith III ISBN 0-07-023682-8, McGraw-Hill, 1991

Programming in REXX — Charles Daney ISBN 0-07-015305-1, McGraw-Hill, 1992

Command Language Cookbook — Hallett German ISBN 0-442-00801-5, Van Nostrand Reinhold, 1992

OS/2 Shareware Registration Offer

I am considering registering a number of OS/2 shareware packages. Since the cost of registration of most of these packages is small, it is often as expensive to purchase an international bank draft as it is to register the package. As a result, where there is sufficient interest, I'm prepared to organise multiple registrations, thus saving on bank charges. The first two packages I'm considering registering are *RODENT* (an improved aftermarket mouse driver for OS/2) and *FILEBAR* (a WPS enhancement/replacement package). If anyone is interested in registering either of these packages (or has other packages they are interested in registering), let me know. *Paul Marwick*

RODENT **FILEBAR**

Tech Tip

DIFFERENT CONFIGURATIONS

It is impressive the number and sophistication of programs to provide a choice of AUTOEXEC and CONFIG files at the next (warm or cold) boot-up. The following simple steps replace tens of kilobytes of program and documentation:

1. Copy
   AUTOEXEC.BAT to *AUTOEXEC.0*
   CONFIG.SYS to *CONFIG.0*

Use *EDIT* (or any editor) to make as many versions as needed of *AUTOEXEC* and *CONFIG*, giving them extensions 1 2 3 etc.

2. Collect all of them into one compressed file. eg. *BOOTFILE.ZIP*

Delete all the versions and put BOOTFILE in any convenient directory, not necessarily on the DOS path.

3. Make BOOT.BAT as follows:

```
@echo      OFF
if  not %1==c goto A
c:\path\pkunzip c:\path\BOOTFILE CONFIG.%2 /o
copy/a  CONFIG.%2 c:\config.sys
del CONFIG.%2
goto END
:A
if  not %1==a goto ERROR
c:\path\pkunzip c:\path\BOOTFILE AUTOEXEC.%2 /o
copy/a  AUTOEXEC.%2 c:\autoexec.bat
del AUTOEXEC.%2
goto END
ERROR
echo Only (lower case) 'a' or 'c' accepted.
:END
```

Then, if the next session requires a change to version two of AUTOEXEC and the normal version of CONFIG:

```
_     enter  boot a 2
_     then   boot c 0
```

and that's it.

Note: If your batch files are on the DOS path then this action can be invoked from any directory.

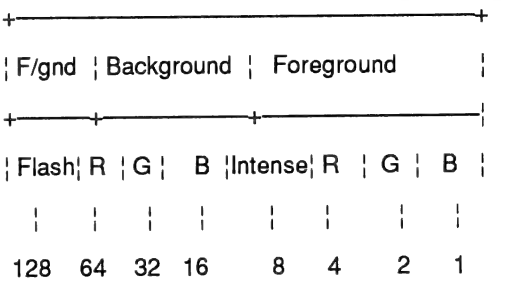
One computer fiend claimed to need 37 boot versions. Numerical extensions allow for 1000 each of *autoexec.bat* and *config.sys*, while with letters and symbols ... umpteen thousands.

This whole system consists of one program, *BOOT.BAT*, and one compressed data file, *BOOTFILE.ZIP*, each requiring the DOS minimum of disk space. How simple can it get?

Geoff Cobham, member No 2500.

Colour Conscious

Many programs that invite a user to set colours require a decimal number but don't mention how to get it. Well ...DOS provides one byte (8 bits) for the colour attribute of characters in text mode and this user's number is the decimal equivalent of that 8-bit binary attribute number.

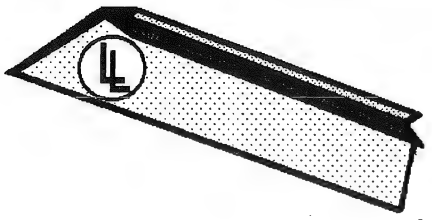


Binary numbers starting with 1 for the least significant bit, double in value with each shift left. Thus, bright white text (all three colours plus Intense) on a blue background would equal 1+2+4+8 = 15 for white and 16 for blue = 31 total.

After the program inputs your number it is simply converted to binary so that DOS can know which bits should be ON - think of them as switches - 00011111 in this example. Overall there are 16 foreground colours which can flash and eight background colours which can't.

Geoff Cobham *Member 2500*

Lindsay's Letter



Lindsay Bates

Practical Computing for Established and New Computer Users

Maybe I'm a rebel, but I believe your computer is SOMETHING THAT SHOULD BE ENJOYED.

In the "good old days" we all had to "play" with our computers a lot - or we'd never get them to go at all!

In doing this we learned how they worked - and we sure got a pile of enjoyment from them! Much more than many do today.

So . . . this month I've done a lot on creating and using GRAPHICS on your computer - both in DOS (which IS still an important part of your PC) and also in Windows.

I hope you'll join in:

There's a Windows Workshop covering a number of areas. This time we learn how to create you own wallpaper (and how to use all sorts of Windows bits and pieces in the process).

Get into Text Paint too, for there's a pile of fun to be had with colour graphics in DOS - and I'll try and do more in coming months.

See, you CAN enjoy your PC more!

So whether you're new to computers or Windows or not, make sure you have a go (nothing much is achieved by just reading - make sure you DO it!) It that all that's on LL this month? No . . . read on, and enjoy!

PC WORKSHOP

1. BUYING A PC - MINUS THE TRAUMA

I can't afford a new computer. Would you advise getting one second hand.

No. Not unless you already KNOW the computer well. In other words, it belongs to a trusted friend or rellie and you know its history.

You seem very strong on this. Why?

Computers are like used cars, they really are. So it's very much a case of paying your money and taking your chances. Even if you know a lot about PCs, you're still taking an awful risk with an unknown second-hand computer.

Okay. If I HAVE to buy new, how do I go about getting a good one?

You're on the right track already - because you're talking about getting a GOOD one. The first mistake many people make is to buy on price. If you buy the cheapest - that's what you've got: the cheapest on the market.

What's wrong with that?

Between the cheapest and dearest Microwave on the market, there is not a big quality gulf. Between the cheapest and dearest PC on the market, the quality gulf is so large the Queen Mary would disappear into it!

I don't understand why the two markets are so different.

Nor do most computer buyers.

Let me try and explain.

A PC is composed of a whole lot of components that come out of a whole lot of different factories, mostly from SE Asia.

Some of those factories produce what can only be described as (cheap) junk, while others produce better quality.

You can buy your new computer from a cheapie if you like - but guess where the components in his brand come from?

And there's another problem here as well.

The quality computer manufacturer does his best to source only decent components - which is no mean task, believe me.

So when he puts them all together, the resultant computer should be good quality, and it should also work well. Right?

Unfortunately, no. Marrying all these different bits from factories all over does NOT ensure that the end result is great at all.

His next task is to ensure that, in fact, it DOES all work together and is not going to give you continued, but intermittent, glitches in Word for Windows

or whatever. Thing is, if he manufactures a quality product, he will be committed to ensuring the PC DOES work properly for you.

So you're talking about Warranty here?

Certainly. When buying new you want to be sure you've purchased decent quality, AND that you'll get good after-sale support.

I can see that's important. What confuses me is all the different types of warranty.

Yes, I agree it is a bit of a minefield for many computer purchasers.

Any tips?

In some ways it's probably reasonably simple here.

Either the firm is going to fully honour its warranty or it isn't. This means that the bit of paper is fairly redundant: the good firms will do a good job for you in the warranty period, no matter what.

And the cheapies won't?

Yes, sadly that's generally true.

I've heard stories of people who NEVER got the problem fixed in the warranty period. Does that happen more than sometimes?

Yes, it does.

And so maybe they sell it second-hand to get rid of it?

Exactly. And that's about where we came in, isn't it?

2. MORE ON USING AND SETTING UP WINDOWS

Many of us like to have a nice wallpaper on our Windows Desktop, and to maybe change it from time to time.

Ever thought of making your own?

Well, it's not hard, and may introduce you to a few new (and quite important) Windows procedures in the process.

. OPEN PAINTBRUSH

First, find the Paintbrush Icon and double-click on it to run the program. Take the mouse up to the Paintbrush name up top and double-click anywhere there to run the window full-size - see illustration. You can do this on ANY window, anytime. .

GET THE RIGHT SIZE SCREEN

Click once on Options, and Image Attributes up on the Menu-bar. Click once on Default, Colors, then pels.

This allows us to make a 640 x 480 screen in colour (if you're running at 800 x 600 you need to change the figures to those numbers). Click *OK*.

. CREATE A BACKGROUND

Now let's choose a background. Down at the bottom are the colours. Click on the topmost of the dark blues.

To fill the background, first click on the Paint-roller Icon on the left hand side. Then put the mouse anywhere in the blank (white) area and click the button once to fill with blue. Magic, hey! Now it may LOOK like you've filled the whole background, but you have three more places to fill.

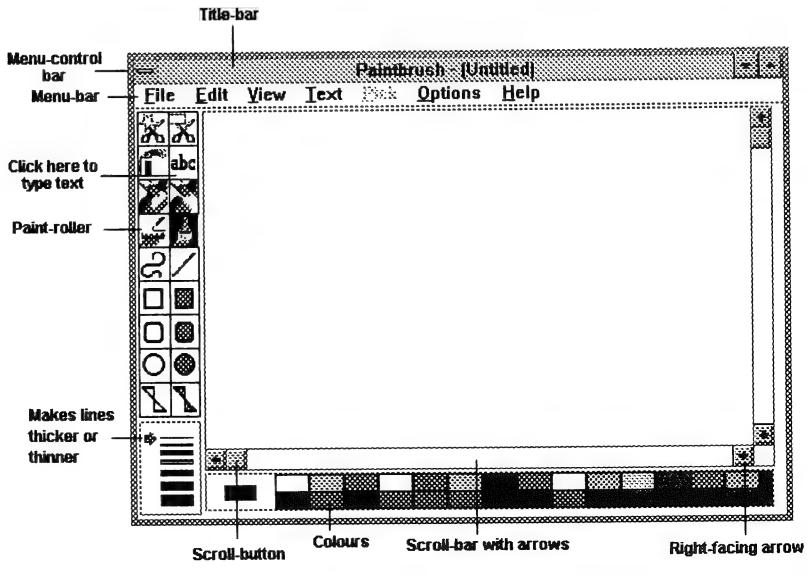
. USING SCROLL-BARS

Find the right-facing arrow on the scroll-bar at bottom left. Put the mouse on it, click and hold, till the scroll-button arrives - see illustration. If you did that correctly, you now have some more white space.

Fill it the same as above. Now repeat the dose with the downward-facing arrow on the other scroll-bar (it's just next door) and fill there; and then the leftward-facing arrow at bottom left and fill there. The background is finished.

. PUTTING IN NAMES

Let's start personalising by putting your name in the top left corner. Now



stick with me here. Because the bottom scroll-bar has its button at the left (we just put it there), the screen is already at the LEFT. But it's NOT at the top.

So go to the other scroll-bar, to the upward-facing arrow on it and bring the scroll-button up to the top. Okay. What colour for your name? Let's click on bright red down at the bottom.

. CHOOSE A FONT

Click on Text up on the Menu-bar then Fonts. You should be able to see a list of fonts in the top left box.

Once again you can use the up- or down-facing arrow on the scroll-bar, to read all of the list.

But this time you may NOT wish to click on the scroll-bar arrow and hold it - or you'll keep going past the font you want! Instead, just click over and over till you reach your spot.

Or use a combo. of clicking and/ or holding. I've decided to click on Times New Roman.

. CHOOSE A FONT SIZE

Across two boxes is Size (of font). Again use the arrows, and click on 36 to start with. Click OK.

You can come back here anytime to change your font and font size.

. TYPE YOUR NAME

Click on ABC to tell Paintbrush you want to type. Put the cursor (it's a vertical line now) somewhere near top left of your blue area.

Now type in your name. If you make a boo-boo, just backspace and retype. If you got the position wrong (too close to the side, say), backspace to remove all the letters, click the mouse at a new position and go again.

It's worth experimenting with *Edit, Undo* here also. You're goin' great! Put the mouse cursor down a bit and do your name again. Or your partner's name, or one of your kids. Copy some of my Tarzan and Jane ideas if you want.

. DIFFERENT EFFECTS!

Like to make the name a bit bigger or smaller? No problem.

Say you choose 14 as your font size, and typed in the name but it's all too small. Just go back to *Text, Font* and change it, and the size will update for you! This technique works if you do it BEFORE moving to the next task. You can click on a different colour and the same thing happens.

So why not do some different colours as you type each name - but not too many, perhaps, or it won't look so good. Repeat names all the way down the left border. Make sure you click the down-arrow on the right-hand scroll-bar to fill the WHOLE side. Then do across the bottom - again clicking the right arrow on the bottom scroll-bar so you do the whole of the bottom. Do the right-hand border, and across the top.

Okay. So why did we do all around the border and not in the middle? Well, most of us have the Program Manager in the middle, so it seems logical to do the borders as priority. But if you can see ALL of your wallpaper, then you'll want to put something in the middle too.

. FILL THE CENTRE?

You can click on the square and circle icons to make some nice shapes.

The procedure here is to click the mouse button where you want a square, say, then move the mouse while still holding the button, and release - that's called click-and-drag.

. SAVE AS YOU GO

Woo, I've forgotten! As you're doing all this you need to save from time to time. Click on *File, Save As,* and type in a name for the file, maybe *NAME-PPR.*

It will save with the .BMP extension, so you can retrieve it and modify later, if you wish. Or later resave it as another name, then modify the new file.

A couple of other specials. To make your text fancier, click on *Text* and experiment with *Italic, Bold, Underline. Outline* and *Shadow* are also great here!

Exit Paintbrush by double-clicking (two clicks close together) on the Menu-control Bar up at very top-left.

. CHANGING THE WALLPAPER

Now find the Control Panel Icon in Program Manager and double-click to run it. Double-click on Desktop to run it - see illustration.

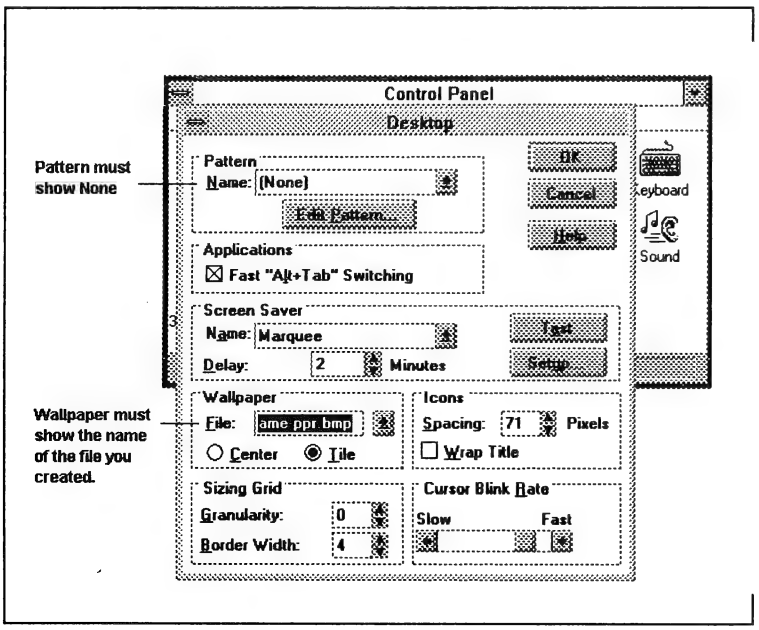
. TURN OFF PATTERN

Ensure the box named Pattern shows the Name as (None). If it doesn't, make a note of the word beside (None) so you can put it back later if desired. Now use the arrows on the scroll-bar in this box to find (None) and click on it. That's turned off this particular way of displaying wallpaper.

. TURN ON WALLPAPER

Go down to the Wallpaper box so we can turn on your new wallpaper here.

Click on the down-arrow and watch for NAME-PPR. Click once on it, then on OK. If all went well, your new wallpaper is now in place! And you can create new wallpapers to your heart's content!



TEXT PAINT

KEVIN SOLWAY

I'm not normally a name dropper, but I've decided to break my rule.

Last month I reviewed Bigtext, a wonderful program by a local programmer, Kevin Solway.

Many will know Kevin for his wordprocessor program *Breeze*.

He keeps on turning out programs like sausages out of a sausage machine! They're all GOOD - Kevin seems to have the ability to program stuff that fills real needs. Fact is, I've yet to see one of his programs that I didn't like! Kevin distributes his programs as shareware, charges ridiculously low prices to register - and seems to throw in a lot of freebies out of his great store of goodies he's written. *I AM IMPRESSED*, and I don't get easily impressed these days.

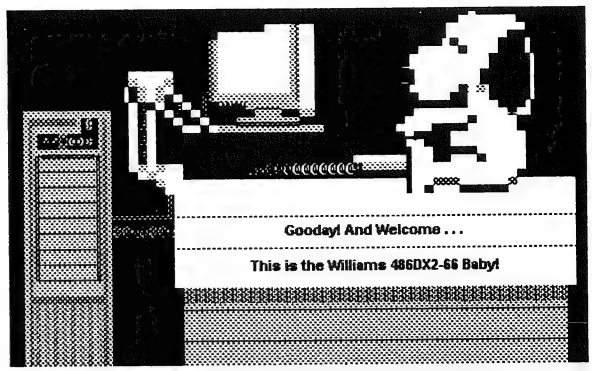
TEXT PAINT

Okay, let's to business.

Text Paint, I have to say, is amazing FUN! You can create new screens or you can pinch screens others have made (I'll explain how as we go along) - so you don't even have to be creative to use Text Paint! So what sort of screens?

Well, plain, or fancy colour screens - including shapes, all sizes of text and in full colour.

These will then display in DOS or in a full-screen DOS Window. These can be viewed, added to your bootup routine as an introductory screen, or used as a slide show. How'd you like an intro. screen like the Snoopy shown here? but in living colour, of course! (Or it could have been a "Beep Beep" Road Runner instead - there are a couple to choose from.)



Text Capture was used to grab this colour screen from the many available in Text Magic. The "Welcome" message was then typed in using Text Paint.

PLUS TEXT MAGIC

Snoopy comes from Text Magic - also supplied with Text Paint. It's a compendium of hundreds of amazing graphics screens just itching for you to view 'em and use 'em!

AND TEXT CAPTURE

I grabbed Snoop using Text Capture, which is supplied with Text Paint - see what I mean about all the extra goodies this programmer supplies!

All I had to do then was use Text Paint to add the "Gooday!" message, and Voila! A cool Snoopy Intro. Screen! Or maybe you'd like the Christmas screen getting near the Festive Season. Good, eh!

But why not make your own? Like Bill's Boomer! for example. Took me only a couple of minutes to create this basic screen in Text Paint! And it IS basic - with a bit of thought I know you could do miles better than that.

For example, there are a total of 16 large fonts to use in Text Paint, all shapes and sizes, including a couple of 3-D ones - should have used these to show you, actually.

All I did to produce the words was click on the font I wanted, choose a colour, then type the words in! Incredibly easy, really.

An' it looks pretty spectacular in full colour, I can tell you! (Be good when we have a colour Mag. eh? More Members will make this possible - so get out there and get some to join.

Who knows, you may be one of those to win a marvellous prize!) Thing is, it can really make you feel good booting up each day with a fancy colour screen you made yourself!

And of course you can change it as often as you wish. The great thing about Text Paint is that even if you don't think you're very arty, you can still create some great stuff - simply because it IS so easy! Why not give it a try?

Another colour screen created using the same procedures as for the Snoopy screen.

Colour screen created in a few minutes using Text Paint. Use it as an Introductory Bootup Screen.

AND FINALLY, VIEW

Oh, I forgot. You use VIEW to display the resultant screen you've created.

And yes, Kevin supplies THAT with Text Paint, tool! So if you wanna have a play with some v-e-e-e-e-ry interesting graphics stuff in DOS, make sure you grab yourself a copy of Text Paint.

It's on Brisbug disk # 8606 (upgraded since last month - if you want to check what's new, give me a ring).

FOOTNOTE: If you register the marvellous program Bigtext (which I reviewed last time) you get the foregoing programs for free! Otherwise, you'll have to fork out the grand sum of $10 (too cheap, Kevin, much too cheap!) to register 'em. I hope you'll do so, to support this wonderful local programmer.

SMILE AWHILE

MORE S.E. ASIANESE

Seen in a 486DX2-66 main-board manual, under General Description:

"Built with exquiste cache controller in advance 1.0 um CMOS technology, UM82C491, with UM82C493 and limited counts of commercial parts constitute a low cost, highly reliable, full advanced feature personal computer system."

COMMENT

DOOM

The latest game to take the world by storm leaves me a little dismayed.

It's not the first of a class of anti-social destructive games, and won't be the last, with each one trying to out-do the previous for violence and bloodiness.

Doom and its ilk bother me because of the cumulative effect such stuff has on young minds. I'm as aware as the next guy that it's already a violent world out there. But I remain unconvinced we have to teach our young guys and men even more violence.

Speak like this and you're likely to get told it's an adult game, not for kids. Maybe so. But how many homes have an adult playing Doom, with the game Passworded out so the ankle-biters can't play? (if yours is, I salute you).

Furthermore, there are millions of adults in the world who are still children.

Many families are now without loved ones as a result of their running amok in an increasingly violent world.

There are oodles of great games available not as violent as *Doom* and its kind. They still have piles of challenge, and even address the 'spirit of fight' that seems to be in many males (especially).

But they're much less likely to be so cumulatively destructive to young minds.

THE BIG BYTE

Have you caught any of *The Big Byte* (SBS, Thursday evenings)?

This program seems to be doing two things:

informing you about computer developments around the world, and (more as an afterthought, perhaps) helping you with your computer.

There's a games segments which neither seems to tell or show you much and will maybe leave you quite a bit "woozy" from excessive camera wanderings.

The segments for new users have real educational potential, but it's seldom realised.

Mostly it's a case of too little, too fast to be of much help, but if you can catch something as they rush along, great.

What's most intriguing is to note Intel as one of the sponsors, and the constant reference to Intel Compatible computers.

Intel Compatible? Wot's it? What they mean is what most of us refer to as *IBM Compatible*, of course.

What the writers and directors of The Big Byte don't seem to realise is that today's PCs contain CPUs by AMD and other players - NOT just by Intel.

Must admit I didn't think SBS had gone that blatantly commercial.

THE UTTERLY USELESS INFORMATION DEPARTMENT!

A reader - with a warped sense of humour - rang with something he thought "may be of some use for the column".

It concerns the Windows 3.1 Logo that comes on screen each time you run Windows. You'll notice that the words have a nice shadow to give them a 3D effect. Seems someone goofed here, for there's a teensy bit missing - shadow-wise - in the "3.1" part.

Well, now you know. (Thanks a bunch, Ray. Really important information, pal!)

◆ No doubt by the time you get to read this, you'll have more information about the jury decision regarding Microsoft's DoubleSpace.

The software giant has released the following - very quietly indeed:

Effective immediately, Microsoft will discontinue manufacturing MS-DOS 6.2.

It goes on to say that it will soon begin shipping Version 6.21, identical with 6.2, except it's MINUS DoubleSpace.

Also that if you're currently using Version 6.x with DoubleSpace, you are not affected in any way. Well, how about that?

◆ Modem prices are set to fall, it seems, and that's good news for those who want to connect to other computers via the phone system.

Pity about their ease of use, as Ian Waters commented in his modem article in last month's *Sig Bits*.

He's right, though. Modems remain about the dangdest, rootin' tootin', most user-unfriendly things in the computer world.

◆ Microsoft has had to release a bug-fix for MS Word for Windows v6.0, and WordPerfect for its version 6 as well.

Seems these fierce competitors in the wordprocessor stakes both rushed their product to market without taking enough time to - GET IT RIGHT.

Inexcusable.

◆ There's growing evidence that the new fast 486DX4 CPUs from Intel (75Mhz and 100Mhz) will compare rather favourably in speed with a Pentium.

And if you're busily saving up for a P60 or P66, they'll cost you a lot less to boot.

About the only question yet to be answered is how this chip-trebling technique by Intel is called DX4?

◆ AMDs 486DX-40 has made a large dint in the lower 486 market, with its price equal to or lower than Intel's slower 486DX-33.

However Intel can still compete with its DX2-50 which in turn is about the same price as AMDs 40Mhz machine.

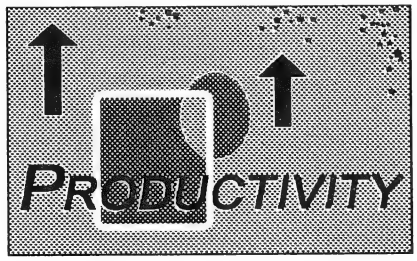
As this means we now have 33, 40 and 50Mhz chips all competing at about the same price, it will be interesting to see how this price war develops as the 1994 unfolds.

◆ And now we have even more new CPUs to cope with!

Added to the PC range we now have the 486SX2-50, while AMDs latest release is a 486SX2-66.

To date SX CPUs have been just as fast as their DX cousins, the only difference in the DX being an inbuilt Maths Co-processor.

Given that fact, and that most of us run no software that uses a Co-Pro, buying a cheaper SX makes excellent economic sense.



HINTS AND TIPS

1. Buy the largest drive you can afford when you next upgrade - the market will currently allow you to go to 350Mb before it starts costing an arm and leg.

The reason is that newer Windows programs take from 5 to 70Mb to install, so even a 250Mb hard-drive gets filled up fast. And data files of these same programs can be a whopping 1/2Mb or even 1Mb per file!

Remember the old days when we used to run our PCs entirely from two 360K floppy-disks?

2. In these days of big files filling our hard-drives, watch out for an almost full disk.

In this event, if you run Windows with a temporary swapfile, there may not be enough room for it to operate.

Even if you use a permanent swapfile, you could be in trouble with not enough room to write temporary files to your Windows \TEMP directory.

3. DOS 6.x users may find some interesting info by typing *HELP WHATSNEW* at the DOS prompt.

4. Because MS-DOS now no longer includes DoubleSpace, if you were thinking of upgrading your DOS, maybe if you're quick you can still get a copy of v6.2.

THIS MONTH'S QUOTES

. Murphy's Law # 259: it will never play up for the technician.

. It said: "Insert Disk # 3", but I could only get 2 to fit.

. Murphy's the name of the guy who invented computers. . .

. Multitasking: the ability to screw up several things at once.

. "When we treat a man as he is, we make him worse than he is. When we treat him as if he already were what he potentially could be, we make him what he should be." - Goethe.

That's it for another month *(phew!)* Have a good one!

Lindsay K. Bates Ph: (07) 808 9441 after 10am

New Additions to the Library

BBUG NO 3251 DISKMAN FOR WINDOWS Version 2.1

*CLASSIFICATION * Disk Labels * Windows * Printer*

The goal of DISKMAN FOR WINDOWS is to provide the most user friendly method to catalog and print labels for floppy disks, Bernoullis, etc.., It then enables the user to produce reports in one of several formats and to search for a specific file by file name or file comments.

DISKMAN FOR WINDOWS provides: dBase files and includes nutrition information; Multiple Document Interface, each document represents a disk storage medium; One keystroke entering of disk into storage box data base; Ability to search for a file through all open storage boxes; Report of all files in storage box by name, extension, size, or date; Professional quality labels; Full font support for both labels and reports; Optional graphics printing to label; File comments compatible with NDOS and 4DOS; Export a data base to an ASCII text file.

BBUG NO 3252 MULTIMEDIA 1 LITE Version 1.7

CLASSIFICATION * Graphics * Hard Disk * VGA * Sound Card Support

MULTIMEDIA 1 is a breakthrough in computer-aided audio/video technology. Imagine turning dull meetings and boring classrooms into show-stopping presentations and tutorials, complete with speech, music, special effect and high quality graphic images.

MULTIMEDIA 1 is a authoring package that will allow you to create professional presentations, tutorials, disk based advertising and much more!

MULTIMEDIA 1 was designed to run on standard off-the-shelf IBM PC/AT or compatible (no special hardware is needed for the sound output, works thru the PC speaker). Multimedia 1 is also compatible with all of the popular image file formats (GIF, PCX, PIC, TIFF and TARGA). This compatibility allows users to use images they have already invested the time and money to create. If you have a SOUND BLASTER, you can record your own voice file and play them back with MULTIMEDIA 1.

BBUG NO 3253 NEOPAINT Version 2.2 (Disk 1 of 2, also 3254)

*CLASSIFICATION * Graphics * Hard Disk * Mouse * Printer*

This is the ultimate image editing/paint program for DOS! NEOPAINT includes many powerful features until now found only in programs costing hundreds of dollars. NEOPAINT reads and writes 2, 16 and 256 color PCX, GIF and TIFF files. It can even convert between differing formats, colors and resolutions. NEOPAINT's beautiful graphical interface lets you view and edit multiple images in adjustable on-screen windows with user selectable video modes up to 1024x768x256.

Tools include: cut/copy/paste/move, undo, brush, airbrush, eraser, color eraser, flood fill, tile fill, color convert, text, line, bezier line, k-line, rectangle, rounded rectangle, ellipse/circle, polygon, freehand polygon, editable polygon, grid, 3D cube, 3D pyramid, magic marker, stamp pad, adjustable snap to grid, solid and transparent patterns, custom patterns, pattern editor, custom palettes, color balance, brightness, contrast, color reduction, invert, flip, rotate, stretch, scale, smudge, blur, pixelize, free screen capture software, and more.

Includes 12 fonts in multiple sizes with bold, italic, underline, outline and shadow effects. (Additional fonts are available from OSCS and third party vendors.) Outputs to Epson/IBM dot matrix, HP LaserJet, Postscript and compatible printers. Supports picture scaling and excellent halftones on LaserJet and Postscript printers. Expanded (EMS), extended (XMS) and virtual disk memory can be used for very large images.

BBUG NO 3254 NEOPAINT Ver 2.2 (Disk 2 of 2, also 3253)

BBUG NO 3255 ADVENTURE MATH Version 9/92 (Disk 1 of 2, also 3256)

*CLASSIFICATION * Educational * Hard Disk * VGA * Sound Card * Mouse*

A high scoring program that teaches children addition, subtraction, multiplication, and division while maintaining a high level of entertainment, ADVENTURE MATH presents colorful images and digital sound and music for your Sound Blaster.

ADVENTURE MATH has plenty of variety and is both fun and challenging for children with a wide range of mathematical abilities. Anyone who plays this game is sure to pick up a few new arithmetic skills. The fun graphics will keep children coming back for more. This product more than lives up to it's billing as educational entertainment.

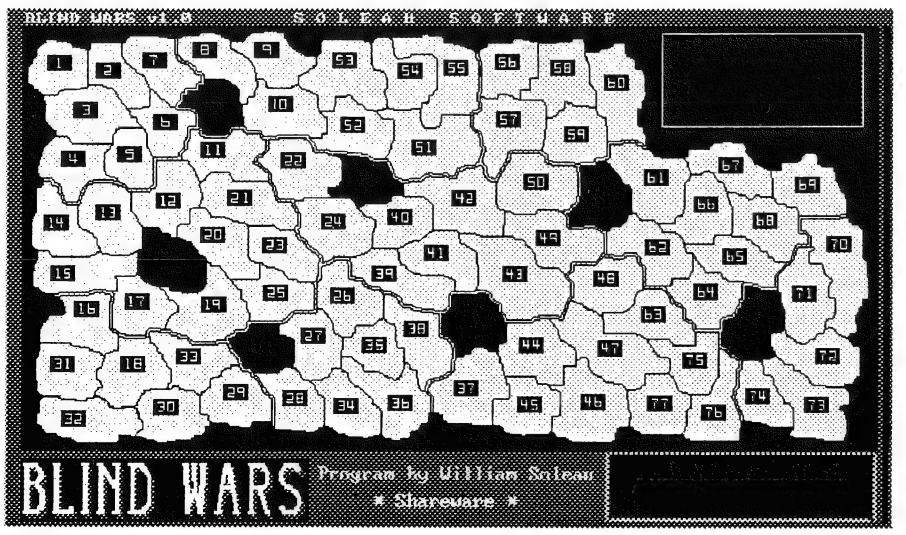
BBUG NO 3256 ADVENTURE MATH Version 9/92 (Disk 2 of 2, also 3255)

BBUG NO 3257 THE PALACE OF DECEIT Version 2.1(Disk 1 of 2, also 3258)

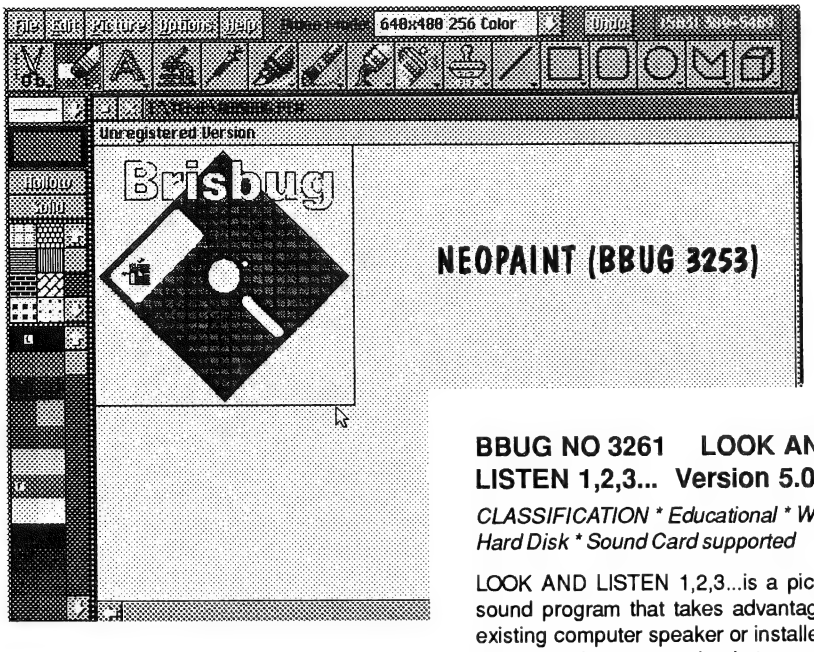
*CLASSIFICATION * Games * Windows * Hard Disk * VGA * Mouse*

THE PALACE OF DECEIT is a fresh new Windows adventure game in which you are a young dragon named Nightshade who is trying to find and kill the evil Garth. Garth has imprisoned you because you know where the Land of the Dragons is, and he anxiously awaits the day that you reveal the whereabouts of this well-kept secret so he can kill all of the dragons.

You must travel through more than 75 rooms in order to find and destroy Garth before he discovers the Land of the Dragons. Good luck!!!



Blind Wars (BBUG3274) is a war strategy game with good graphics



BBUG NO 3258 THE PALACE OF DECEIT Version 2.1 (Disk 2 of 2, also 3257)

BBUG NO 3259 SOFTLINE RESUME Version 3.3

*CLASSIFICATION * Resume * Windows * Sound Card/Microphone*

Job hunting in the 90's! A slide show program that talks with your own voice! RESUME helps you assemble a Windows compatible electronic resume (talking floppy disk) and distribute them (royalty free) to potential employers. Automatically accesses a Windows Write file from within the program for detailed, written information (your resume) on yourself. The employer may print out your information from Windows Write.

Includes WINSTALL! Windows utility program for an easy end-user installation. You may customize WINSTALL for your particular resume and distribute freely or simply run the program from the floppy drive. Grab their attention and get that interview with a Talking Resume!

BBUG NO 3260 TALKING SIDESHOW Version 3.3

*CLASSIFICATION * Graphics * Windows * Hard Disk * Sound Card*

A slide show program that talks with your own voice! Simply substitute your own picture and sound files for the Softline files. Assemble your own professional presentations for tradeshows, business meetings, training seminars, etc.. Includes Sound and Loop adjustment dialog boxes.

TALKING SLIDESHOW does not require any extra hardware to play back the sound files - operates through the PC internal speaker (Windows/standard or enhanced modes) or sound card.

TALKING SLIDESHOW does not Auto-stretch/ shrink the picture files. Auto-stretch/shrink tends to distort high resolution picture files.

Up to 100 picture and sound files in one show!.

BBUG NO 3261 LOOK AND LISTEN 1,2,3... Version 5.0

*CLASSIFICATION * Educational * Windows * Hard Disk * Sound Card supported*

LOOK AND LISTEN 1,2,3...is a picture and sound program that takes advantage of the existing computer speaker or installed sound device. Grab your pre-schooler's attention with colorful pictures and fun sounds!

Teach them how to count to 10 and introduce them to a computer at the same time. Have loads of fun with re-coloring the pictures within Windows Paint. Sound Off, Loop and Delay are handy features for testing and teaching. An easy auto install program is included.

BBUG NO 3262 LOOK AND LISTEN A,B,C...Version 5.0 (Disk 1 of 2,also 3263)

*CLASSIFICATION * Educational * Windows * Hard Disk * Sound Card*

LOOK AND LISTEN A,B,C... is a picture and sound program that takes advantage of the existing computer speaker or installed sound device. Grab your pre-schooler's attention with colorful pictures and fun sounds! Teach them the A,B,C's and introduce them to a computer at the same time. Have loads of fun with re-coloring the pictures within Windows Paint. Sound Off, Loop and Delay are handy features for testing and teaching. An easy auto install program is included.

BBUG NO 3263 LOOK AND LISTEN A,B,C...Version 5.0 (Disk 2 of 2,also 3262)

BBUG NO 3264 LOOK AND LISTEN ANIMALS Ver 5.0

*CLASSIFICATION * Educational * Windows * Hard Disk * Sound Card*

LOOKAND LISTEN ANIMALS is a picture and sound program that takes advantage of the existing computer speaker or installed sound device. Grab your pre-schooler's attention with colorful pictures and fun sounds!

Teach your kids how to identify various animals and introduce them to a computer at the same time. Have loads of fun with re-coloring the pictures within Windows Paint. Sound Off, Loop and Delay are handy features for testing and teaching. An easy auto install program is included.

BBUG NO 3265 LOOK AND LISTEN COLORS Version 5.0

*CLASSIFICATION * Educational * Windows * Hard Disk * Sound Card*

LOOKAND LISTEN COLORS is a picture and sound program that takes advantage of the existing computer speaker or installed sound device. Grab your pre-schooler's attention with colorful pictures and fun sounds!. Teach them about colors and introduce them to a computer at the same time. Have loads of fun with re-coloring the pictures within Window Paint. Sound Off, Loop and Delay are handy features for testing and teaching. An easy auto install program is included.

BBUG NO 3266 LOOK AND LISTEN DINOSAURS Ver. 5.0 (Disk 1 of 2, also 3267)

*CLASSIFICATION * Educational * Windows * Hard Disk * Sound Card*

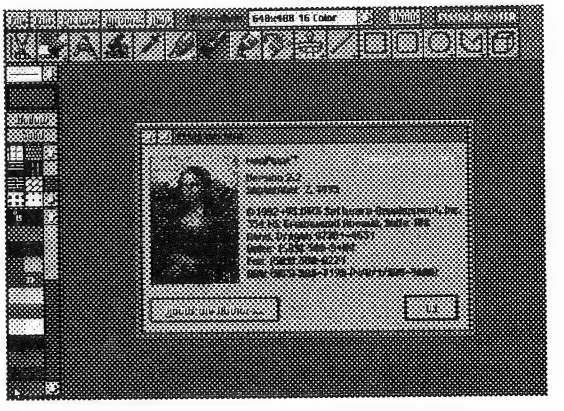
LOOKAND LISTEN DINOSAURS is a picture and sound program that takes advantage of the existing computer speaker or installed sound device. Grab your pre-schoolers attention with colorful pictures and fun sounds! Teach your kids about Dinosaurs and introduce them to a computer at the same time. Have loads of fun with re-coloring the pictures within Windows Paint. Sound Off, Loop and Delay are handy features for testing and teaching. An asy auto install program is included.

BBUG NO 3267 LOOK AND LISTEN DINOSAURS (Disk 2 of 2, also 3266)

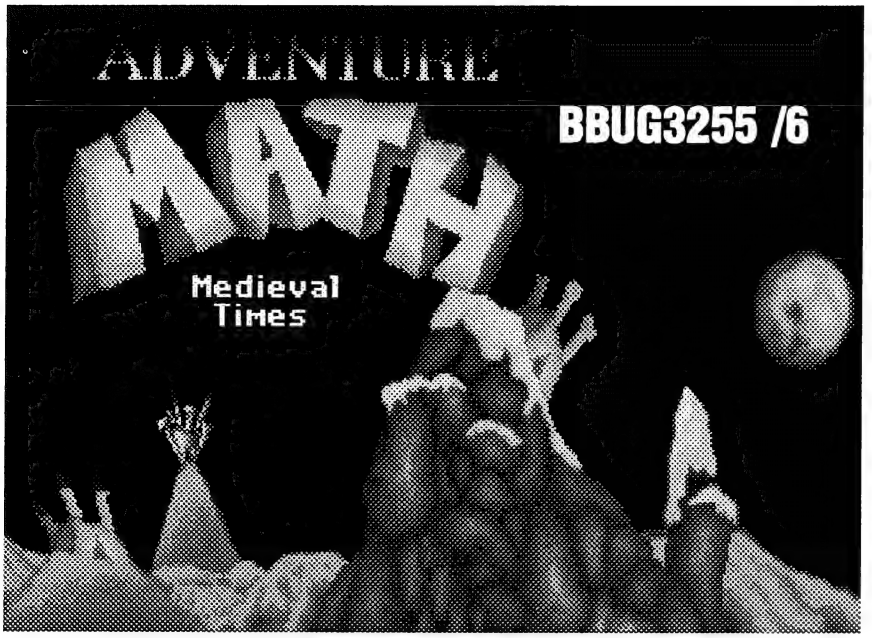
BBUG NO 3268 LOOK AND LISTEN OPPOSITES Ver 5.0

*CLASSIFICATION * Educational * Windows * Hard Disk * Sound Card*

LOOKAND LISTEN OPPOSITES is a picture and sound program that takes advantage of the existing computer speaker or installed sound device. Grab your pre-schooler's attention with colorful pictures and fun sounds! Teach them about Opposites and introduce them to a computer at the same time. Have loads of fun with re-coloring the pictures within Windows Paint. Sound Off, Loop and Delay are handy features for testing and teaching. An easy auto install program is included.



Neopaint - View, edit, and convert picture files



BBUG NO 3269 LOOK AND LISTEN SHAPES Version 5.0

*CLASSIFICATION * Educational * Windows * Hard Disk * Sound Card*

LOOKAND LISTEN SHAPES is a picture and sound program that takes advantage of the existing computer speaker or installed sound device. Grab your pre-schooler's attention with colorful pictures and fun sounds! Teach them about Shapes and introduce them to a computer at the same time.. Have loads of fun with re-coloring the pictures within Windows Paint. Sound Off, Loop and Delay are handy features for testing and teaching. An easy auto install program is included.

BBUG NO 3270 PICTURE IT WITH SOUND Version 5.0

*CLASSIFICATION * Graphics * Windows * Hard Disk * Sound Card*

A slide show program that talks with your own voice! Simply substitute your own picture and sound files for the Softline files. Create your own lessons, tutorials, etc.. as in the Look and Listen programs. Includes Sound and Loop adjustment dialog boxes.

PICTURE IT WITH SOUND does not require any extra hardware to play back the sound files - it operates through the PC internal speaker (Windows / standard or enhanced modes) or installed sound card. Features picture fileAuto-Stretch/Shrink. Up to 100 picture and sound files in one show.

BBUG NO 3271 NISUS MISSILE MASTER Version 2.62S

*CLASSIFICATION * Games * Windows * Hard Disk * Sound Card HIGH DENSITY DISK ONLY*

NISUS MISSILE MASTER is the very best "Missile Command" type game yet for Windows. The graphics and colors are excellent. If you have Sound Blaster Pro, Media Vision Pro 16, or a similar sound card,

NISUS MISSILE MASTER also has some great and funny sound effects. The missiles you launch at enemy weapons sound like missiles being launched -nothing phony here. The explosions are realistic and you can alter the intensity of the explosions from the options menu. When one of your cities is destroyed or you earn a bonus city, the sound effects are fun, but the funniest is the one you hear when the game ends. In the registered version of the game you can give yourself unlimited missiles.

Requires VBRUN200 - BBUG # 9083

BBUG NO 3272 FIND FELIX Version 1.1

*CLASSIFICATION * Games * Hard Disk * EGA/ VGA*

FIND FELIX is an adventure game with a twist, not only is the subject a bit different, but so are some of the events.

You move your character around by using the arrow keys. There are places that you cannot move to, and also "Danger Zones" where you will not want to go because then you'll have to start all over again. You'll learn where these are by trial and error. Quite a number of actions can also be achieved by typing in commands by inputting Verb-Noun combinations (e.g. Look at (whatever) or Pick up —).

There are two distinctly different ways to win the game. One way is to find Felix, if you do, you will then realize where he is, and a certain ending will take place. The other way to win is with points. You don't necessarily need points to find Felix, but you may need something else, and you will have to take some chances and have an idea what is going on. There are subtle hints.

BBUG NO 3273 INSIGHT FINANCIAL

*CLASSIFICATION * Business * Hard Disk * Printer*

INSIGHT FINANCIAL contains three very useful financial software programs suitable for both business or home use.

THE INTERESTANALYZER Version 2.29, is a financial software program designed with ease and flexibility in mind. It comes complete with a variety of financial tools including calculating Annuities (Savings, Interest Accumulation), Amortization (Loan Mortgages), Depreciation, ImmediateAnnuities and Calculators for solving missing values. Each financial tool contains a variety of options to allow maximum flexibility.

The Interest (Savings) tool allows variable deposit modes, deposits, withdrawals and interest rates. Professional reports can be generated with varying detail. Special options are available to illustrate the time value of compounding and the impact of taxes on savings.

The Amortization (Loan) tool allows variable payments, interest rates and compounding methods. Professional schedules can be generated with varying levels of detail. Special options are available to illustrate the savings incurred an early payoff of a loan and to show tax savings with mortgages.

The Depreciation tool allows for a variety of depreciation methods to be illustrated using different time conventions.

The Immediate Annuity tool allows variable payout modes and compounding methods. Professional schedules are produced.

Illustrations and schedules can be viewed on the screen or sent to a pri The INTEREST ANALYZER is a menu driven program that also contains an on-manual and individual help for each input to allow the user to easily navigate and understand the program. Client names can be entered and inc in the illustrations. Each financial tool has the ability to save and retrieve all information entered. The INTEREST ANALYZER provides several miscellaneous configuration options for setting the program up to your individual liking.

THE MORTGAGE ANALYZER Version 1.08, comes complete with a variety of mortgage options for calculating and producing mortgage amortization schedules, loan qualification, payoff time for refinancing, and a group of mortgage related calculators. Each area contains a variety of options to allow maximum flexibility.

A variety of different mortgage types such Fixed Rate, Adjustable Rate (ARM), Stepped Rate and Reset Rates are supported. Early payoffs of mortgages are supported with options like Recurring Extra Payment, Ballo Payment, Variable Extra Payment, Double Principal Payment, Growing Equit Payment, 52 Quarter Month Payments per year, 26 Half Month Payments per Year (Bi-Weekly), 13 Monthly Payments per Year and Variable Payments. Ta SavingsAnalysis on the mortgage is available. Two complete mortgages ca be illustrated side by side with one or all items of information varied. The MortgageAnalyzer accounts for all expenses associated with Mortgage such as Points, Down Payment, Daily Interest and Other Closing Costs. Complete schedules and/or summaries are produced.

Calculators provided are a Four Function Calculator, a Solve For Missing Loan Value Calculator, a Points Calculator, a Daily Interest Calculator, and a Refinance Payback Calculator.

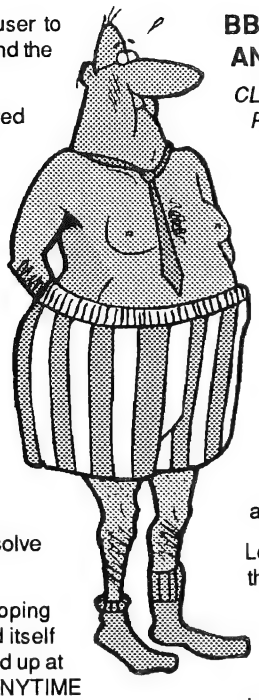
Schedules and reports can be viewed on the screen or sent to a printer. The MORTGAGE ANALYZER is a menu driven program that also contains an on-line manual and individual help

for each input to allow the user to easily navigate and understand the program.

Client names can be entered and included in the schedules. All informati can be saved and retrieved for multiple clients. The MORTGAGEANALYZER provides several miscellaneous configuration options for setting the program up to your liking.

FINCALC Version 1.08, is three calculators in one. It consists of a four function calculator, a present value/future value/solve for value calculator, and a loan/solve for calculator.

FINCALC is a memory swapping TSR. It can load and unload itself from memory. It can be called up at the touch of a keystroke ANYTIME from within any program. It takes up about 6.5K of memory when not in use.



BBUG NO 3274 BLIND WARS Version 1.0

*CLASSIFICATION * Games * Hard Disk * EGA/VGA * Mouse*

BLIND WARS is a strategy war game. The object is to conquer all the cities on the game board. In this exciting sequel, the task becomes quite challenging because you cannot see the strength of your opposing armies. BLIND WARS plays like the classic game 'Risk' yet adds many new elements like floods, prduction centers, volcanic eruptions and a host of other events which make the game situations always unpredictable.

You'll have to constantly develop different strategies in order to be victorious over your three computer adversaries. Blind Wars has a mouse interface which means you'll never have to touch the keyboard while you play. The game is written in beautiful EGA/VGA graphics and is packed with features such as multiple difficulty levels, score cards and save game.

BBUG NO 3275 ROBIX Ver 1.0

*CLASSIFICATION * Games * Hard/Floppy Disk * EGA/VGA*

ROBIX is a logic puzzle game. The objective of ROBIX is to get your colored blocks to the bottom of the game board by pushing entire rows either left or right. Players take turns shifting the rows allowing their blocks to descend while trying to block their opponent's efforts to do the same. There are no elements of chance involved in ROBIX. It is a pure strategy game with stunning EGA/VGA animated graphics.

ROBIX features many options and allows you to play against the computer or a friend. Its simple interface and elegant design will provide endless hours of entertainment for all ages. No two games are ever the same, so ROBIX is a constant challenge everytime you play. So if you like games of logic and strategy, then ROBIX is a must!

BBUG NO 3276 DEBT ANALYZER V 1.20

*CLASSIFICATION * Business * Hard Disk * Printer*

The DEBT ANALYZER is a financial software program designed with ease and flexibility in mind. It is the perfect tool to help reduce and eliminate debt. Debt reduction is illustrated through a loan payment matrix or through loan consolidation. Up to 17 debts can be processed at one time.

The loan payment matrix offers the flexibility of using minimum payments or current payments. Additional accelerated payments can be applied. Debts can be prioritized to be paid off in any order.

Loan consolidation illustrates the savings that can be incurred by combining all your high rate debts to one lower rate loan. The term or the payment of the consolidated loan may be specified or the total of all other debt payments can be used.

Reports can be viewed on the screen or sent to a printer. The DEBT ANALYZER is a menu driven program that also contains an on-line manual and individual help for each input to allow the user to easily navigate and understand the program.

Client names can be entered and included in the reports. All information can be saved and retrieved for multiple clients. The DEBT ANALYZER provides several miscellaneous configuration options for setting the program up to your individual liking.

BBUG NO 3277 DROPPER FOR WINDOWS Version 3.1

*CLASSIFICATION * Utilities * Windows 3.1*

DROPPER is a small program which allows you to perform drag and drop to the Windows desktop. It is similar in many ways to the NeXT style icon dock programs around at the moment. Rather than requiring that drag and drop is performed to a strip along one side of the screen however, Dropper allows any part of the desktop to be used as a target. Dropper requires Windows 3.1, and Source code is available from the author on request.

DROPPER comes in two versions, drop16.exe and drop16e.exe. The 16 stands for 16-bit (NT versions of Dropper will be known as drop32.exe) and the e for Experimental. The two versions differ only in the technique they use to detect files being dropped on the desktop.

The first uses a technique known as subclassing, the only technique used by Dropper prior to version 0.4. This approach has a number of disadvantages, not least that it won't work under Windows/NT. As a result, the experimental version uses an alternative technique overlaying a transparent window over the desktop.

BBUG NO 3278 ENCRYPT-IT Version 2.0

*CLASSIFICATION * Utilities * Windows * Hard/2/Floppy Disks*

ENCRYPT-IT is a powerful encryption/decryption package for Windows that allows you to encrypt and decrypt files to maintain system security. ENCRYPT-IT uses the data encryption standard (DES). DES performs its encryption "magic" by working on a block of 64 bits of your data using a 64 bit key that you define.

What is the data encryption standard (DES)? Most encryption schemes are kept secret. One exception is the Data Encryption Standard (DES), which was issued by the U.S. National Bureau of Standards. Even the National Security Agency (NSA) was intimately involved in the development and acceptance testing of the algorithm.

But, how does it work? DES performs its encryption "magic" by working on a block of 64 bits of your data using a 64 bit key (we generate the 64 bit key from the key you supply). Basically, DES is a substitution cipher. The complexity of DES has been hidden behind an extremely easy to use interface. The extensive built-in user help system makes protecting your data a simple task.

ENCRYPT-IT is a powerful encryption/decryption package for Windows that allows you to: Encrypt any file using Data Encryption Standard encryption, Decrypt the file using a confidential key, Perform encryption and decryption on entire groups of files in a batch mode, Obtain file statistics (frequency/distribution, mode, mean, median, and more) to determine how well the file is encrypted (also to look at other encrypted files), Erase files completely without leaving a trace. It even supports a government standard file wipe option. And do it all without cryptic commands!

BBUG NO 3279 THE*DRUMS V 4.50

*CLASSIFICATION * Music * Windows 3.1 * Hard Disk * Mouse * Midi Card*

THE*DRUMS is a complete universal sequencer/editor for all your drum parts. You can edit your patterns on the screen editor and chain them to different instruments, choose the right Divisions/Beat ratio, select the MIDI channel and save the defaults into the configuration file. You'll have up to 15 patterns to play in the sequence you define into the Song Vector; then save the standard Midi File song and import the file in your personal Midi

Games Classification

The new Classification of Computer Games came into effect from the 12th April. This means that all new games must be classified by a relevant federal department before these games can be sold in Australia.

Fortunately for Brisbug, there is quite a backlog of programs still to be placed in our library listings and I am advised that the games contained in this backlog are not subject to classification, so we can expect to see a few games released through the library for the time being.

However, once this backlog of programs have been processed, I'm afraid that the listing of new games available will eventually dry up. I feel certain that the relevant department will consider classification of Shareware games last of all, so unless specific applications are made for classification of a game, we could see the end of Shareware games in our library.

It is unfortunate that Shareware programs must suffer because the authors of commercial games have tried to outdo each other by writing more and more violent and sexually-explicit games for the market.

The strange anomoly to this form of censorship is that there is no attempt to classify games obtained from Bulletin Boards, so whilst the new games cannot be obtained from the Software Library unless they receive classification, there will be no restriction to users downloading unclassifiied new games from a BBS.

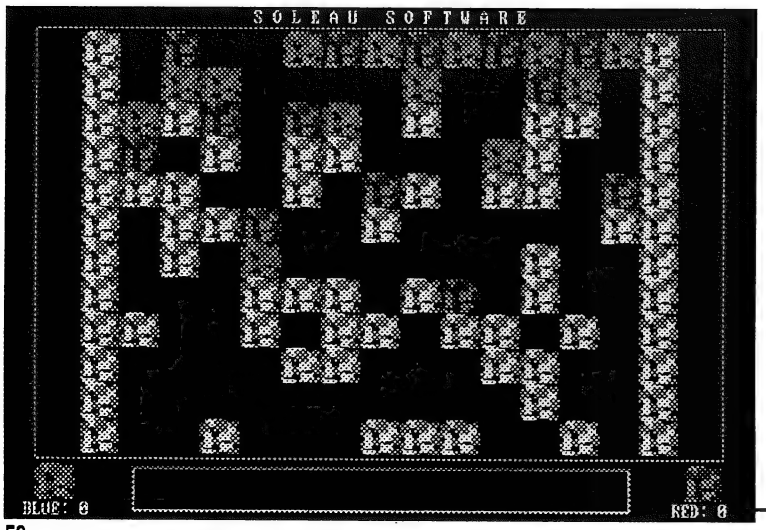
A word of warning - some of these newer games are extremely large files and unless you own a high speed modem, you will find that you don't have enough time on the BBS to download the larger files.

The only "classified" game currently in the Brisbug Library is "DOOM" and this has received a rating of M15+, which means that it is Suitable for persons 15 years and over.

sequencer, to add the rest of the orchestra. Your drum pattern can be built editing on the static workspace, real-time editing, or real-time recording from any MIDI instrument. NOTE:Only registered copies are able to generate Standard Midi Files.

Cakewalk for Windows (WinCake) users will find a useful function in the Copy Song of the Edit Menu. This will allow them to easily export the song in the Windows Clipboard, switch to WinCake application and, from there, paste to One track the entire drum song. This will supersede the need to save to a file and then retrieve, wasting time. THE*DRUMS uses the Standard MIDI File format for the Clipboard as WinCake does, allowing the data exchange from the two applications. Further to this, if you are running an MPU401, install the 12Tone Systems driver in place of your Windows mpu401.drv. This will allow you to run THE*DRUMS and WinCake simultaneously, listening to the music playing while testing your drum pattern!

ROBIX — BBUG3275 is a logic puzzle game



BBUG NO 3280 WINKEY and DIALOG

*CLASSIFICATION * Utilities * Windows * Hard Disk * Modem*

WINKEY Version 1.0, is a program to be invoked at Windows startup to customize keyboard behavior under Windows. WINKEY can modify your keyboard's shift status to operate like a typewriter, disabling CAPS LOCK when you hit the SHIFT key, so that you do not type "nOW IS THE TIME..." when you intended to type "Now is the time". 10-key pad users may permanently lock NUM LOCK on or off to insure the desired results when these keys are typed. SCROLL LOCK may also be permanently enabled or disabled. For notebook computer users who get confused by the location of the CTRL and CAPS LOCK keys, WinKey allows the functions of the two keys to be reversed.

DIALOG Version 2.0, is a Windows compatible telephone dialer, and logging program. This program has many interesting features that make it of great use to anyone who spends a great deal of time on the telephone.

Some of the features include: Tone or Pulse and manual dialing. It provides 2 address books for dialing and logging. It prints envelopes on LaserJet. Logging and most other features functional both with or without a modem. It can dial special Tone-Dial services that require additional numbers and/or digits and accepts non-numeric-character phone numbers (1-800-Egg-Head). It provides quick conversion of non-numeric numbers directly from the key board. It functions as a stop watch. Phone logs may contain jobcodes and may be viewed, printed and saved to another file. It offers password protection and provides a quick notepad.
Requires VBRUN100.DLL - BBUG # 9083.

BBUG NO 3281 XCLOCK FOR WINDOWS Version 2.1

*CLASSIFICATION * Utilities * Windows * Hard Disk*

XCLOCK is a world Clock with eXtended setup for all time displays, time zones and alarms to any city or country in the world. XCLOCK's accuracy depends on its versatile abilities for time zones and daylight savings time settings. XCLOCK also has the ability to add user defined time zones.

XCLOCK can also make changes to your internal PC system clock automatically if DST changes for local time zone.

XCLOCK and its powerful alarm component is developed for users dealing with trade and communication world-wide. Features include: 12 time displays in main window (stays on top in Windows 3.1), time display at icon, additional local clock window (stays on top of all windows in Windows 3.1), 8 additional separate clock windows (stay on top in Windows 3.1), 250 alarm settings, saved to next Windows sessions, Sizable XCLOCK window, position and size saved to next session, Location list editor with special setup for daylight savings time, Xclock supports daylight savings time settings for all locations, Xclock document and registration file lister, User notepad, start of a user defined program, and support file for Windows Calendar.

BBUG NO 3282 NEVERLOCK: THE COPY PROTECTION BUSTER Version 07/93

*CLASSIFICATION * Utilities * Hard Disk*

Quit spinning your wheels trying to find the right code to start your favorite commercial game. NEVERLOCK saves you time and trouble by removing the copy protection from hundreds of popular games and programs. NEVERLOCK completely automates the process. Choose your program from a menu of

over 100 popular titles. NEVERLOCK automatically creates backups of your original program files and processes the disk. From then on you can start up your favorite game without annoying secret code.

The list of programs you can un-protect is amazing! You'll find Lotus 1-2-3, Jack Nicklaus Unlimited Golf, Battle Chess II, F-117A and F-19 Stealth Fighter, Gunship 2000, Strike Aces, the Where Is Carmen series, Sierra games before 1989-literally hundreds of the most popular titles on the market today! So forget paging through manuals looking for paragraph 3, line 7, word 4. Use NEVERLOCK and let the games begin!

BBUG NO 3283 PC-VAULT Version 4.5F

*CLASSIFICATION * Utilities * Hard Disk*

PC-VAULT, formerly called PC-LOCK, prevents access to the hard disk from a floppy boot and offers extensive security on multi-user terminals. Once PC-VAULT is installed on a station, you will be asked for a user or system administrator password every time the computer boots up. As an administrator you can prevent users from using CTRL-BREAK to get out of the AUTOEXEC.BAT file, and set up different configurations in the AUTOEXEC.BAT file based upon who is logging in to the system. Reports are available for attempted break-ins, and different levels of alarm and lockout features can be selected.

PC-VAULT has what the authors call a "Lunchbreak feature," which will blank a screen and prevent any keyboard entry until the proper password is entered. You can also have the computer enter this "Lunchbreak" status once keyboard entry has been idle for a specified amount of time.

As with any access protection program such as PC-VAULT, it is imperitive that once you have set a password you do not forget it. If you forget it, you will not be able to access the hard drive again without re-formatting. All data will be lost!

BBUG NO 3284 WORLDTIME V A.0.4

*CLASSIFICATION * Utilities * Windows * Hard Disk*

Do you have to call people in other parts of the world frequently? With WORLDTIME, you can check the time in the city you are calling before you call. This Windows program will display the current time for your location (based on your PC's clock), the Greenwich Median time (GMT), and the time for any city you select.

When WORLDTIME starts, you will see your current time, the GMT time, and the time for the first city in the TIMEZONE.INI file. To see the time zone in another city, you can click on the down arrow and then scroll through the cities. You can also use the up and down arrow keys to scroll through the cities. You can also type in the name of the city. As soon as you type in enough characters of the city to fully qualify it, it will appear. You can even Add, delete, and change cities that World Time knows about.

BBUG NO 3285 GUITAR TEACHER AND GUITAR TUNER Version 1.41

*CLASSIFICATION * Music * Hard/Floppy Disk*

GUITAR TEACHER is a system for displaying guitar-chord diagrams. GUITAR TEACHER checks your computer's display adapter and automatically sets up the program for either a monochrome or color display.

Features include: * Right- or left-handed display * Three alternatives for each chord * Formula and voicing displayed * Hear the notes of each chord through the computer's speaker

GUITAR TUNER - A six-string-guitar tune which checks your computer's display adapter and automatically sets up the program for either a monochrome or color display.

Features include: * Easy to use * Right- or left-handed display * Hear the notes of each chord through the computer's speaker

BBUG NO 9171 EPIC PINBALL Ver 1.0

*CLASSIFICATION * Games * Hard Disk * VGA * Sound Card*
HIGH DENSITY DISK ONLY

EPIC PINBALL brings true arcade-style Pinball to life on your PC! The 256-color scrolling VGA graphics, digital music and sound, and ultra-realistic style will take your breath away! This true commercial-quality product was created by the authors of Silverball, the new record-setting retail pinball game.

This version of EPIC PINBALL showcases the ANDROID pinball table. True to the 1990's pinball style, you must make an increasingly-challenging series of shots to bring the Android to life! The dazzling graphics, real pinball sounds, and authentic look and feel will keep you hooked on EPIC PINBALL - a great game for the whole family.

EPIC PINBALL Features: * Ultra smooth-scrolling 256-color VGA graphics. The animation runs at an astounding 60 frames per second! * A lavishly-illustrated, robust pinball table. * Realistic pinball action, sound, music, and thrills! * Features a special multiple-ball mode! Play up to five balls on the table simultaneously. * Accurately reflects a 1990's-style Pinball table. * Real digital pinball sound effects. * A unique digital musical score.

EPIC PINBALL Gadgets: Drop Targets, Ball-return gates, Spinners, Multi-Level Playfields, Kickbacks, Tunnels, Messenger Balls, Multiple-ball mode, Skill shots, Jackpots, Rollovers, and Much, much more!

Library Charges

Copies of disks supplied by the Software Library are as follows:

5.25" Disks - $4.00 each 3.5" Disks - $5.50 each

High Density Disks (Special Programs only as advertised) $8.00 each

Postage - Up to 8 disks $3.00 Over 8 disks $5.00

Catalog Disk Exchange

$2.00 at meetings or when accompanied with an order for other disks

$5.00 if ordered separately.

There are 5 - 5.25" disks or 2 -3.5" disks in our catalogs. Don't forget to allow for these when calculating postage.

BLANK DISKS are also available from the library, costs as follows:

5.25" 360K MD2D — $ 8.00 per box 5.25" 1.2M MD2HD — $15.00 per box

3.5" 720K MF2DD — $15.00 per box 3.5" 1.4m MF2HD — $30.00 per box

Postage - $5.00

Mail - Telephone Orders

Orders can be sent to:

BRISBUG SOFTWARE LIBRARY
95 Station Road
BOOVAL QLD 4304

or by phone to (07) 281 6503 - 9am to 1pm 2 pm to 4 pm Monday to Friday.

All orders must be prepaid (sorry, no credit facilities are available) by cheque, postal order or by credit card (BankCard, MasterCard or Visa).

CREDIT CARD MINIMUM - $25.00

PLEASE ALLOW AT LEAST 14 DAYS FOR PROCESSING ALL ORDERS.

BRISBUG HELP LINES

The following members have generously offered to give telephone assistance on the topics listed. Please be sure to observe the restrictions on times specified by each person. This service is not intended to serve as on-going training or a substitute for reading the manuals, or for not having manuals. It is for assistance with particular difficulties and for general advice such as when considering becoming involved in that topic.

New offers of help are always welcome, and there are some topics absent from the list. If you would like your name listed for a particular topic, please ring Lloyd Smith on 281 6503 (9am-1pm, 2-4pm Mon-Fri.)

Accounting	Ian Haly	870 1463	After 5.30pm & W/E
	Fred Griffin	(075) 38 4731	
As-Easy-As	Dan Emerson	288 6070	Evenings
AutoCad	Geoff Harrod	378 8534	Evenings, Weekends
C	Geoff Baker	290 0974	6-90pm Weekdays
	Ian Haly	870 1463	After 5.30pm & W/E
	Danny Thomas	371 7938	6-9 pm Weekdays and Weekends
C++	Geoff Baker	290 0974	6-9pm Weekdays
Clarion	Ray Creighton	354 1107	Evenings & Weekends
Clipper	Don Anderson	881 2432	Evenings
	Dan Emerson	288 6070	Evenings
	Mike Theocharous	824 1450	Anytime
CodeBase	Ian Haly	870 1463	After 5.30pm & W/E
Communications	Ron Lewis	273 8946	8am-5pm Weekdays
	Graeme Darroch	209 1999	6-9pm & Weekends
	Len Krawczyk	(075) 91 2524	
Dataflex	Tony Obermelt	287 5534	Mon - Sat After Hours Weekends
dBase	Dan Emerson	288 6070	Evenings
	Mike Theocharous	824 1450	Anytime
	Bob Boon	209 1931	8am-5pm Weekdays
	Sylvia Willie	393 3388	Evenings
	Neil McPherson	(075) 97 1240	After 6pm
DBXL	Ian Haly	870 1463	After 5.30pm & W/E
Desktop Publishing	Joanne Ellis	(075) 71 0113	Anytime
DisplayWrite 4	Mike Lester	275 1742 (343 5703 After Hours)	Weekdays
DOS	Ron Lewis	273 8946	8am-5pm Weekdays
Environment Sensing	Dan Emerson	288 6070	Evenings
Forth	Danny Thomas	371 7938	5-9pm Mon-Fri.
Fortran	Cec Chardon	870 1812	Evenings
	Rob Adamson	266 8353	Evenings
Fox/FoxPro	Leon Percy	808 1570	Evenings
Genealogy	Rob Adamson	266 8353	Evenings
	Colin Cunningham	263 3005	Evenings
	Bob Gurney	355 4982	8am-8pm Mon-Fri.
	John Bedford	(075) 72 2410	Anytime
	Martin Bond	(075) 94 1315	
	Ted Sansom	(075) 36 8210	
	Jemma Ussher	(075) 31 1672	Anytime
Hardware	Ron Lewis	273 8946	8am-5pm Mon-Fri.
	Mark Mullins	841 4623	8am-5pm Mon-Fri.
	John Ellis	(075) 71 0113	5-8pm Mon-Fri.
	Len Krawczyk	(075) 91 2524	
	Col McLaren	(075) 91 1768	
Help!	Dan Bridges	345 9298	7.30-10.30pm W/E
Meta5	David Shaw	870-3633	9am-9pm All days
Multimate	Frank Mehr	397 3984	Anytime
Multi-user DOS	David Shaw	870 3633	9am-9pm All days
Novell Netware	Dan Emerson	288 6070	Evenings
Open Access 2	Cec Chardon	870 1812	Evenings
OS/2	Alan Gibson	207 2118	6.30-9.30pm
Paradox 4 Win	Geoff Dancer	294 6976	Evenings
Pascal	Steve Cann	245 4453	Weekends
PostScript	Danny Thomas	371 7938	5-9pm Mon-Fri W/E
PowerBase	Mike Lester	275 1742	Weekdays
Project Management & Planning	Brian Doyle	(343 5703 After Hours) 355 1328	9am-9pm All days
Quick-Basic 4.5	Harry Strybos	288 5145	4-7pm Weekdays
Quicksilver	Ian Haly	870 1463	After 5.30pm & W/E
R-Base	Tony Luck	818 4060	9am-5pm All days
Spreadsheets	Sylvia Willie	393 3388	Evenings
SQL	Cec Chardon	870 1812	Evenings
SW Radio	Drake Drakeford	(075) 37 1993	
	Bill Harder	(075) 96 3562	Anytime
	Frank Norris	(075) 35 5241	6-7.30pm All days
System Manager	David Shaw	870 3633	9am-9pm All days
True Basic	Bob Gurney	355 4982	8am-8pm Mon-Fri.
Turbo Pascal	Bill Harder	(075) 96 3562	Anytime
	Neil McPherson	(075) 97 1240	After 6pm
Utilities	Neil McPherson	(075) 97 1240	After 6pm
Viruses	Dan Bridges	345 9298	7.30-10.30pm &W/E
Windows	Bernard Speight	349 6677	6-9pm
Wordstar	Neil McPherson	(075) 97 1240	After 6pm
Wordstar 2000/4	Bob Boon	209 1931	8am-5pm Mon-Fri.
Xenix	Paul Watts	892 2226	Mon-Sat A/H & Sun
	Mike Lester	275 1742 (343 5703 After Hours)	Weekdays

This list incorporates the Gold Coast SIG helpers

MEETINGS

Meetings are held on the 3rd Sunday of every month, except under unusual circumstances, at

QUT KELVIN GROVE CAMPUS
Victoria Park Road
Kelvin Grove, Brisbane *10am to 5pm.*

Brisbug occupies the main lecture theatre and several other lecture rooms in "B" Block. Please note that other groups are usually using the campus at the same time, and that parking is permitted only in the designated areas. Disabled access is available

Food and refreshments are available 11:30-2:00. Alcohol is not permitted.

Members and visitors must wear an identity badge available from the Membership desk.

THE WORLDWIDE STANDARD

"The new speed demon"

—*PC Magazine*, May 11, 1993

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*Usability Science Corporation, dBASE IV v2.0 vs. FoxPro v2.5, June 1993. †dBASE Compiler for DOS sold separately.